

GENERAL PLAN

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City of Grand Terrace

December, 1988



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Department

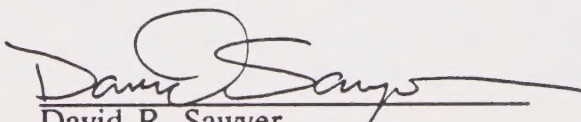
July 19, 1989

Honorable Byron Matteson
City of Grand Terrace
22795 Barton Road
Grand Terrace, CA. 92324

Honorable Mayor and City Council,

I am pleased to present to you the 1989 General Plan and its Master Environmental Analysis for the City of Grand Terrace. I'd like to take this opportunity to thank all the people involved for their many hours of hard work and patience required to complete this document, including the City Council, the Planning Commission, City staff and of course Willdan Associates. The intent of this General Plan is to provide the community with the long range planning goals and objectives necessary for the healthy and prosperous development of the City of Grand Terrace for many years to come. This document meets all of the requirements of California State Law and is ready for implementation.

Respectfully,


David R. Sawyer
Community Development Director

DRS/mcm

ORDINANCE NO. 114

AN ORDINANCE OF THE CITY OF GRAND TERRACE,
CALIFORNIA, APPROVING GENERAL PLAN AMENDMENT
GP-87-4 AND MASTER ENVIRONMENTAL IMPACT
ASSESSMENT E-87-1

WHEREAS, the engineering and planning firm of Willdan Associates has been retained by the City of Grand Terrace to update the entire General Plan; and

WHEREAS, Willdan Associates was also retained to prepare the accompanying Master Environment Impact Assessment for the General Plan Update; and

WHEREAS, the area west of Interstate 215 was to be updated first; and

WHEREAS, this City Council passed the General Plan Update (GP-87-2) for the area west of 215 on the 30th day of July, 1987; and

WHEREAS, a Negative Declaration for GP-87-2 was issued with the proviso that the environmental work required by the California Environmental Quality Act for GP-87-2 would be included in the update for the entire City (GP-87-4); and

WHEREAS, the Master Environmental Impact Assessment E-87-1 is for the entire General Plan Update which includes the area West of Interstate 215 as well as the area East of 215; and

WHEREAS, the Planning Commission at its meeting of April 4, 1988, recommended to the City Council to approve GP-87-2 and E-87-1; and

WHEREAS, the City Council held properly noticed public hearings on April 14, 1988, June 23, 1988, and October 13, 1988, regarding the General Plan Update and Master Environmental Impact Assessment.

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF GRAND TERRACE, DOES HEREBY ORDAIN AS FOLLOWS:

SECTION 1. The proposed Master Environmental Impact Assessment No. 87-1 set out in full in the attached Exhibit "A" is approved and adopted by the City Council.

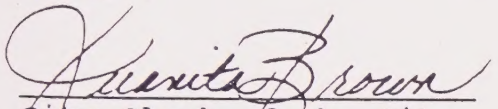
SECTION 2. The proposed General Plan Amendment No. GP-87-4, which incorporated GP-87-2, set out in full in the attached Exhibit "A", is approved and adopted by the City Council.

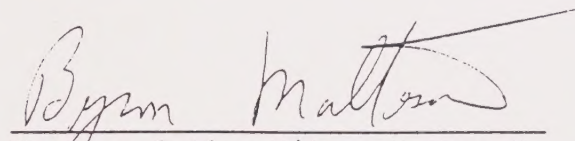
SECTION 3. Effective Date - This Ordinance shall be in full force and effect at 12:01 a.m. on the 31st day of its adoption.

SECTION 4. Posting - The City Clerk shall cause this Ordinance to be posted in three (3) public places within fifteen (15) days of its adoption, as designated for such purpose by the City Council.

SECTION 5. First read at a regular meeting of the City Council of said City held on the 17th day of November, 1988, and finally adopted and ordered posted at a regular meeting of said City Council on the 8th day of December, 1988.

ATTEST:


City Clerk of the City
of Grand Terrace and of
the City Council thereof


Mayor of the City of Grand
Terrace and of the City
Council thereof

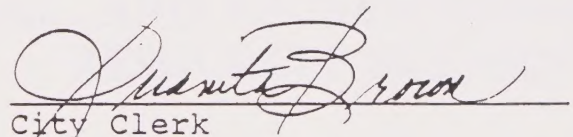
I, JUANITA BROWN, Deputy City Clerk of the City of Grand Terrace, California, do hereby certify that the foregoing Ordinance was introduced and adopted at a regular meeting of the City Council of the City of Grand Terrace held on the 8th day of December, 1988 by the following vote:

AYES: Councilmembers Grant, Singley, Carlstrom;
Mayor Matteson

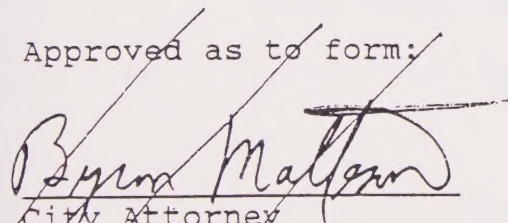
NOES: Councilmember Pfennighausen

ABSENT: None

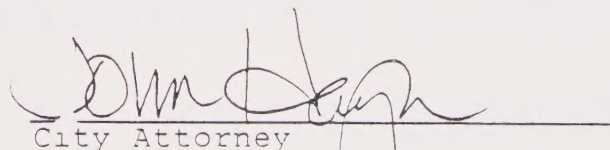
ABSTAIN: None


City Clerk

Approved as to form:


City Attorney

Approved as to form:


City Attorney

GENERAL PLAN

PREFACE

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II. PLAN SUMMARY

III. HAZARDS ELEMENT

IV. NATURAL RESOURCES ELEMENT

V. AESTHETIC, CULTURAL, AND RECREATIONAL
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VI. COMMUNITY DEVELOPMENT ELEMENT

VII. INFRASTRUCTURE ELEMENT

VII. HOUSING ELEMENT

IX. HOUSING ASSISTANCE PLAN

MASTER ENVIRONMENTAL ASSESSMENT

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PREFACE

PREFACE

This General Plan and accompanying MEA/EIR was originally prepared by Beland/Associates in January 1984. In 1987, the City retained Willdan Associates to update both the General Plan and MEA/EIR. Much of the material in this document is derived directly from the original work of Beland/Associates with necessary updating and revision of information by Willdan Associates to reflect the changes contained in the 1987 General Plan Update.

INTRODUCTION

INTRODUCTION

**GRAND TERRACE:
AN OVERVIEW** Grand Terrace is located on a wide alluvial plain overlooking the Santa Ana River and the San Bernardino Mountains. Originally, the area was entirely agricultural, principally citrus groves. Over the last 25 years, Grand Terrace has evolved rapidly into a high quality residential community.

In November, 1978, incorporation reaffirmed the Grand Terrace's separate identity. The overriding purpose of the following document is to help the City toward achievement of its potential. This is expressed by the goals of its citizens as defined in the Grand Terrace General Plan.

In 1987 the Grand Terrace City Council, responding to changing market conditions and increasing development pressure, elected to undertake a comprehensive review of the General Plan. The Council requested that the Community Development and Infrastructure Elements, particularly the land use and circulation issues affecting the community, be reviewed and amended as necessary. The respective portions of the other required General Plan Elements were also amended based on the proposed changes.

PURPOSE OF THE GENERAL PLAN

Planning can be described as a process for making decisions about the future based upon adequate and comprehensive information. Local government is continuously involved in this process of identifying issues, analyzing them, forming goals and objectives, defining alternatives, selecting the desired option, implementing this option, and monitoring progress toward achievement of the goals and objectives.

However, the process is almost never this discrete and linear. In many cases, political realities, which demand difficult choices involving high demands and low resources, complicate the process and require continual redirection of plans and policies.

Today's economic, social, and political pressures place even greater strains on this hypothetical planning model. Therefore, the need is for a major policy statement which can serve as a basis for meaningful, informed decisions by those responsible for the future of Grand Terrace.

For many years, the State of California has required each city and county to adopt a general plan concerning the local government's policies on the maintenance and improvement of existing development, and the location and characteristics of future development needed to achieve community goals. Therefore, one purpose for this General Plan is to fulfill state legal requirements per Government Code Section 65302.

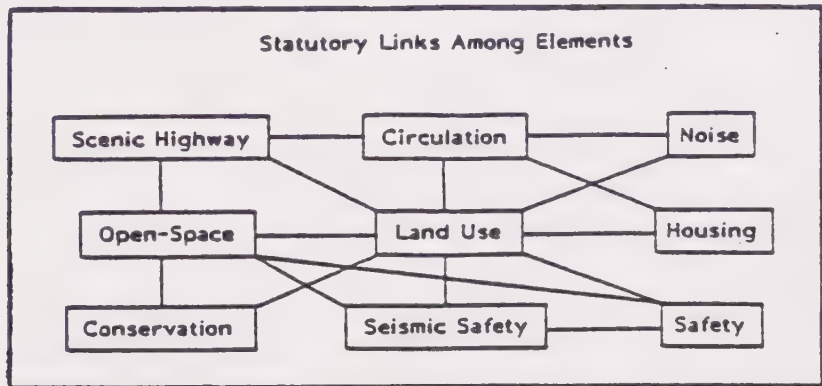
In addition, the General Plan guides the City's legal exercise of powers delegated by the federal and state constitutions to control zoning and the subdivision of land.

More significantly, the General Plan represents the statement of the City's goals and desires for the future as evolved from an extensive public participation process.

The General Plan is not a static document which resists change. Instead, it must be annually reviewed to assure responsiveness to changing conditions and needs of the community. This requirement for realistic review and adjustment of the Plan on an ongoing basis is a major principle of the Plan's format and organization.

ORGANIZATION OF THE PLAN:

Current government code requirements for a general plan mandate several elements. As shown on the following diagram, these statutory requirements overlap and intertwine. This division of a general plan into such elements has evolved from the incremental process by which the law has changed over time. Over the years new elements have been added, other have been consolidated. Little attempt to clarify and organize elements according to substance or significance has been made.



In many cases, resultant general plans have lacked specificity which addresses significant local issues and the implementation of appropriate programs. Because of this situation, the State of California Office of Planning and Research has published the new General Plan Guidelines to help cities produce more relevant plans which are still legally responsive to government code mandates.

These new guidelines are organized into six major issue categories:

- HAZARDS:
- NATURAL RESOURCES
- AESTHETIC, CULTURAL, AND RECREATIONAL RESOURCES
- COMMUNITY DEVELOPMENT
- INFRASTRUCTURE
- HOUSING

These categories were used as the basic divisions in the issue identification phase, and also serve as the principle elements of the General Plan. They satisfy the statutory requirements of the seven mandated elements as shown in the following diagram:

TYPICAL ELEMENTS

	Land Use	Circulation	Housing	Conservation	Open Space	Noise	Safety
Hazards	●			●	●	●	●
Natural Resources	●			●	●		
Aesthetic, Cultural and Recreational Resources	●				●		
Community Development	●		●		●		
Housing	●		●				
Infrastructure	●	●		●			

This format is directed more toward an issue-oriented process that were the typical elements. It is organized in a sequential manner as described below.

Beginning the General Plan with Hazards and Natural Resources established an early linkage between the land, its characteristics (limitations and resources), and suitable use thereof. These elements basically relate to the natural environmental base of the City.

Aesthetic, Cultural, and Recreational Resources involve a combination of the natural and the man-made environment. Therefore, this element is designed to compliment the previous two elements in establishing a framework for determination of future "best use" of land.

The Community Development element introduces the social, economic, and political needs and concerns of the community into the plan.

Infrastructure, the full range of physical improvements necessary for sewer and water facilities, fire and police protection, flood control, traffic and circulation, and all other support/service needs, is a critical element of the General Plan.

The Housing element, which follows a state-mandated format, is a very significant policy statement of the General Plan. Without a comprehensive definition of housing needs and meaningful plans to satisfy the needs for existing and expected residents of Grand Terrace, the City will experience difficulties in achieving its major goal-creating the "balanced community" with a full range of living, working, and shopping opportunities within its boundaries.

USE OF THE PLAN The Grand Terrace General Plan has been carefully designed for use by citizens who wish to understand long-range City policy; and use by planners, developers, and other persons who need a land use policy document which assists the orderly development of the City toward adopted goals.

This document contains two major parts. Part One, the General Plan, includes the Introduction, the Summary, and the six elements. This is the prime statement of land use policy by the City of Grand Terrace. As such, it will be subject to full public hearing and environmental processing prior to adoption by the Planning Commission and the City Council. Any future amendments will require the same basic review and hearing process.

Part Two of the documents includes the Master Environmental Assessment (MEA) and Environmental Impact Report (EIR). This material consists of detailed statistical and factual information about the planning area. It is generally organized according to General Plan element classifications and provides the background data and description of factors affecting each element.

Because much of this information is subject to rapid change, the MEA is designed for administrative amendment - no formal adoption or public hearing/review is required. As such, direct revision of sections or pages of the MEA is intended to assure easy, cost-effective updating of this important data base.

Also, the MEA is designed to provide a City-wide catalog of environmental information so that future project documentation can be more focused or even eliminated where appropriate. Greater savings of time and cost should result.

The Grand Terrace planning area (i.e., Sphere of Influence) is limited to the 3.7 square mile area within the City's corporate boundary. (see Figure 1-1).

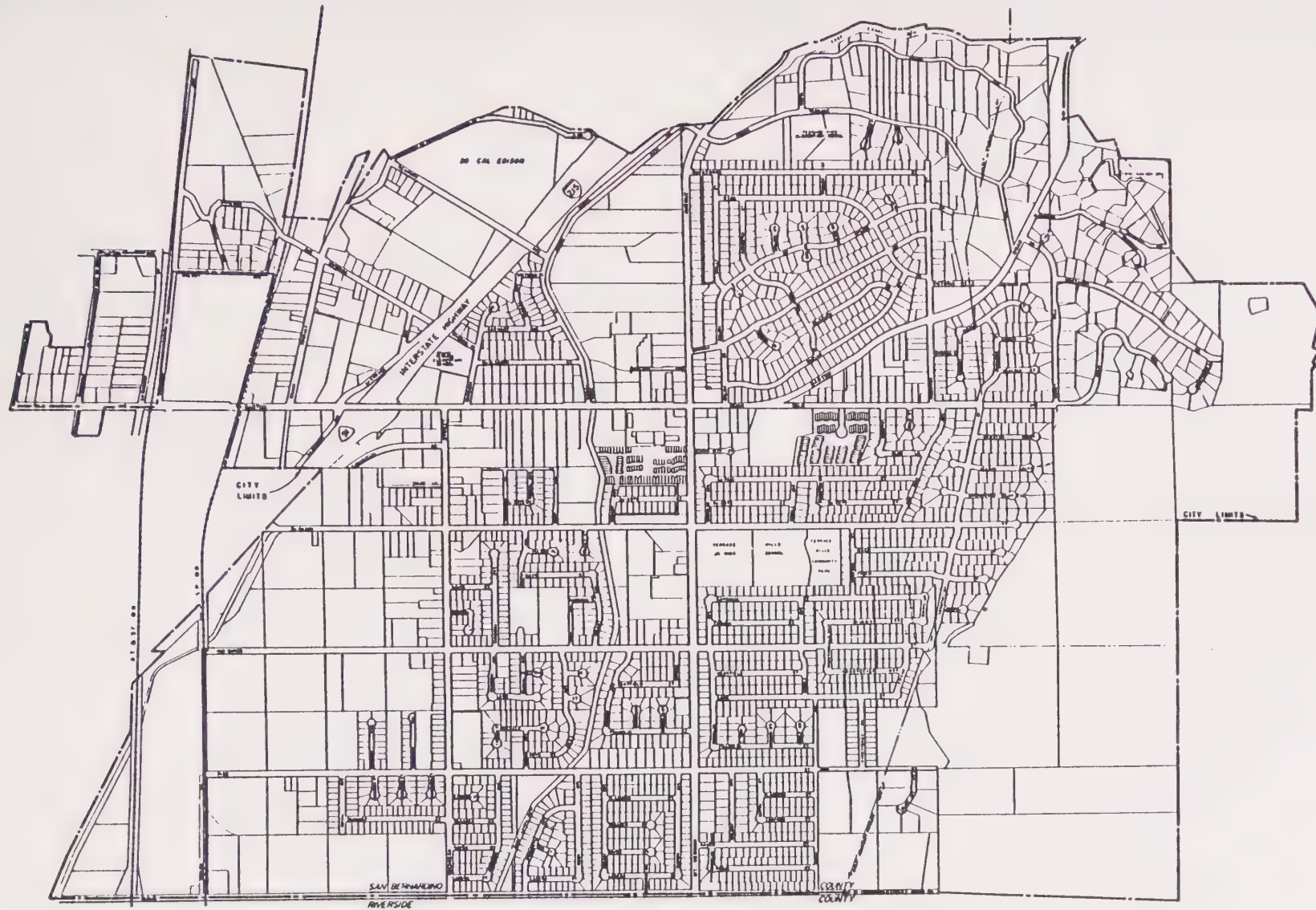
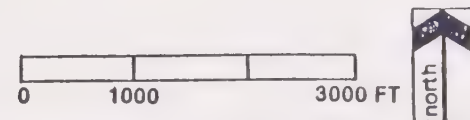


Figure I - 1
Grand Terrace Plan Area

City of Grand Terrace



PLAN SUMMARY

PLAN SUMMARY

PLAN GOALS:

This General Plan for the City of Grand Terrace is a strong statement of policies to guide the City toward achievement of the goals contained herein. As such, it is also a reflection of the hopes and aspirations of its citizens.

Goals for this plan were evolved during a period of several months, which involved an extensive public meeting, hearing and review process. They have been structured to respond to the six elements of the plan as follows:

- MITIGATION AND EVENTUAL ELIMINATION, WHERE ECONOMICALLY FEASIBLE, OF ALL NATURAL AND MAN-MADE HAZARDS TO LIFE AND PUBLIC SAFETY WITHIN THE CITY OF GRAND TERRACE.
- CONSERVATION OF ENERGY AND OTHER CRITICAL NATURAL RESOURCES THROUGH A COMPREHENSIVE PROGRAM TO PROTECT AND ENHANCE THE NATURAL ENVIRONMENT.
- ENRICHMENT OF THE COMMUNITY BY OPTIMIZING THE AVAILABILITY AND USEFULNESS OF THE CITY'S AESTHETIC, CULTURAL AND RECREATIONAL RESOURCES.
- BALANCED GROWTH WHICH SEEKS TO PROVIDE OPPORTUNITIES FOR A WIDE RANGE OF EMPLOYMENT AND HOUSING AND MAINTENANCE OF A HEALTHY, DIVERSIFIED ECONOMY.
- MAINTENANCE AND CONTINUED DEVELOPMENT OF GRAND TERRACE'S ESTABLISHED COMMERCIAL AREAS, AND ENCOURAGEMENT OF NEW COMMERCIAL DEVELOPMENT.
- THE CITY SHALL PROMOTE THE DEVELOPMENT OF LABOR-INTENSIVE, LIGHT, NON-POLLUTING INDUSTRY WHICH IS COMPATIBLE WITH THE PRESENT LAND USE PATTERN.
- PROMOTE AND ENCOURAGE A SUPPLY OF HOUSING SUITABLE TO THE NEEDS OF AND SUFFICIENT IN NUMBER TO SERVE EXISTING AND PROJECTED RESIDENTS OF GRAND TERRACE.

- PROMOTE AND ENCOURAGE HOUSING OPPORTUNITIES FOR ALL ECONOMIC SEGMENTS OF THE COMMUNITY, REGARDLESS OF AGE, SEX, ETHNIC BACKGROUND, PHYSICAL CONDITION, OR FAMILY SIZE.
- PROMOTE AND ENCOURAGE THE REHABILITATION OF DETERIORATED DWELLING UNITS AND THE CONSERVATION OF THE CURRENTLY-SOUND HOUSING STOCK.

These goals, and implementing policies, are restated in each of the six elements of the General Plan.

LAND USE POLICY MAP

The graphic depiction of various land use classifications with density ranges and differing land use intensity shows how the Plan will guide future development. The Land Use Policy Map is included as Figure VI-1 in the Community Development Element.

Tabulation of the components of this Land Use Policy Map is presented in Table 11-1.

PLAN IMPLEMENTATION

The General Plan is a tool to be used by the City Plan-Planning Commission and City Council in ongoing decision-making. As such, it is not absolute and inflexible. It requires annual review by the City Planning Commission to assure its adequacy (in accord with Government Code 65400 b).

Since it is not a regulatory document by itself, the Plan must be implemented through a continuing series of zoning ordinances, financing programs, capital improvement programs, and other official actions by the City of Grand Terrace.

The primary means of implementing the General Plan is the City's zoning ordinance. As an exercise of the state delegated "police power", the City has the authority and responsibility to take actions necessary to promote the public health, safety, and general welfare. Adoption of this general plan will require rezoning of some parcels to assure consistency with the Plan (as required by state law).

Another means of implementing the Plan and its policies is the City's subdivision ordinance. Regulations of the design and improvement of land when it is divided for sale and/or development is an effective technique.

TABLE II-1
GENERAL PLAN LAND USE POLICY MAP TABULATION
ACREAGE BREAKDOWN

LAND USE CATEGORY	<u>TOTAL ACRES</u>	<u>PERCENT TOTAL</u>
Rural Land/Open Space (Hillside Overlay)	<u>139.0</u>	<u>6%</u>
Total Rural Land/Open Space	139.0	6%
Low Density Residential	999.0	42%
Hillside Overlay	<u>101.0</u>	<u>4%</u>
Total Low Density Residential	1,100.0	46%
Medium Density Residential	172.0	7%
General Commercial	305.5	13%
Office Commercial	29.0	1%
Light Industrial	155.5	7%
Flood Plain Overlay	<u>32.0</u>	<u>1%</u>
Total Industrial	187.5	8%
Public	79.0	3%
Streets and Highways	353.0	15%
TOTAL	2,365.0	100%

Source: Willdan Associates, August 1987.

The City's housing and building codes are additional implementation tools. Most of these codes are fairly uniform from one city to another. However, there are opportunities for special procedures and requirements where local conditions warrant.

The City's ongoing Capital Improvement Program is also an important implementation tool. Grand Terrace's need for additional streets; water, sewer, and drainage facilities; and other services must be carefully planned and programmed.

C. AESTHETIC, CULTURAL, AND RECREATIONAL RESOURCES

1. Parks/Open Space Resources

Parks and recreation facilities are primarily provided by the City's Community Services Department. Terrace Hills Community Park (5.35 acres), located on DeBerry Street in the central portion of the City, is the largest existing park within the community. The park provides playfields for active recreation and is located adjacent to the grounds of Terrace Hills Junior High School which provides additional facilities for active recreation, including a swimming pool. The school facilities are owned and maintained by the Colton Unified School District. Griffin Park (1.6 acres) is a small linear park located along the Metropolitan Water District easement in the northeastern portion of the City which provides a connection between Merle Court and Observation Drive. It is intended primarily for passive recreational use. In addition, the City has been negotiating for the use of a ten acre parcel of land owned by Southern California Edison as a park site. This park is to be known as Pico Park and will provide an opportunity for field sports facilities in the southwestern portion of the City. However, lease restrictions will prevent the City from developing any permanent structures on the site such as a gymnasium, restrooms, snackbar and community meeting rooms. Such permanent structures have been identified by the community as definitive recreational needs and, therefore, this park will not fulfill desired long-term recreational goals. The playgrounds and playfields of Grand Terrace and Terrace View Elementary Schools also currently provide facilities for active recreational purposes at the neighborhood level. Approximately 5.0 acres of recreational area is available for public use at each of these schools. An agreement exists between the City of Grand Terrace and the Colton Unified School District for the use of these schools for public recreational purposes.

The amount of local parkland currently available to City residents totals 36 acres. This amounts to 3.6 acres of parkland per 1,000 residents based upon an estimated City population of 9,877 in 1987. This falls slightly short of the minimum amount of parkland recommended to adequately serve the 1987 population (4.0 acres/thousand). The existing system of parks does not provide the range of recreational facilities desired by the community. At this time, none of the existing parks contain a fully-developed range of facilities for organized field sports nor permanent facilities for other community activities such as a gymnasium and community center. In addition, Pico Park is a limited-use facility since restrictions prohibit the development of any permanent structures. Since Pico Park is restricted in use and is not a City-owned facility, it will not adequately serve the long-term needs of the community.

TABLE II-6
EXISTING LAND USE TABULATION

LAND USE CATEGORY	ACRES	% TOTAL
RESIDENTIAL		
Low Density	801	34%
Medium Density	153	6%
Mobile Homes	<u>26</u>	<u>1%</u>
Total	900	41%
COMMERCIAL		
Retail/Service/Restaurant	138	6%
Office	<u>5</u>	<u>1%</u>
Total	143	7%
INDUSTRIAL	205	9%
PARKS/OPEN SPACE	10	1%
PUBLIC FACILITIES	31	1%
VACANT	633	27%
CHURCHES	10	1%
STREETS AND HIGHWAYS		
Streets	298	13%
Highways	<u>55</u>	<u>2%</u>
Total	353	15%
TOTAL	2,365	100%

Source: Willdan Associates

(c) Industrial

Much of the industrial land in Grand Terrace is devoted to two Southern California Edison Company facilities: a generation plant in the southern portion of the City, and a switching substation at the town's northern border. Other users include a wholesale lumber yard, a plating company, and a pump manufacturer. Industrial uses comprise a total of 205 acres, or 9 percent of the total land area in Grand Terrace.

(d) Parks and Open Space

This category consists of the public parks within the community.

(e) Public Facilities

Public facilities include the three schools, as well as the City Hall. Thirty-one acres are included in this category, which is 1 percent of the total land area in the City.

(f) Churches

The City's seven churches occupy a total of approximately ten acres, about one half of one percent of the total area.

(g) Streets and Highways

The Interstate 215E corridor occupies 55 acres, or roughly 2.3 percent of the area within the corporate boundaries of Grand Terrace. Approximately 298 acres are devoted to the City's street system; this is 20 percent of the developed area, and 12.5 percent of the total. Both the percentage of total acreage, and the number of acres devoted to streets, can be expected to increase as currently vacant land is urbanized.

(h) Vacant Land

Four hundred and ninety-six acres remain undeveloped in the City, over 22 percent of the total land area. The steep essentially undevelopable hillsides of the Box Springs Mountains comprise a significant portion of the

HAZARDS ELEMENT

HAZARDS ELEMENT

GOAL: MITIGATION AND EVENTUAL ELIMINATION, WHERE ECONOMICALLY FEASIBLE, OF ALL NATURAL AND MAN-MADE HAZARDS TO LIFE AND PUBLIC SAFETY WITHIN THE CITY OF GRAND TERRACE.

A "hazard" is generally defined as a "risk, peril, or danger..." according to Webster's New World Dictionary. In the urban context, hazards include a long listing of physical "risks" which may threaten the safety and/or well-being of the community.

The following set of hazards have been determined significant in the City of Grand Terrace. They are selected as issues to be addressed by this element of the General Plan. Hazards which are insignificant in the City include inundation from seismically-induced dam failure, land subsidence, land tsunamis and seiches.

Implementation Policies:

- THE CITY SHALL IDENTIFY AREAS OF ENVIRONMENTAL CONCERN (E.G. STEEP SLOPES, FLOOD PRONE AREAS, GEOLOGIC HAZARDS, ARCHAEOLOGIC/HISTORIC SITES, ETC.) AND REQUIRE SPECIAL DEVELOPMENT REVIEW AND CONTROLS BEFORE APPROVAL OF ANY NEW CONSTRUCTION THEREIN IS GRANTED.
- HILLSIDE AREAS IN THE EASTERN PORTION OF THE CITY SHALL BE TARGETED AS A ZONE OF SPECIAL ENVIRONMENTAL CONCERN. SPECIFIC FACTORS TO BE CONSIDERED INCLUDE SLOPE STABILITY, FIRE HAZARD, ACCESS POTENTIAL, AND UTILITY AVAILABILITY.

◦ GEOLOGIC/ SEISMIC HAZARDS

Issue Assessment - (MEA Reference: II-A-1)

Major Significance: Developed Areas, City-Wide.

Minor Significance: Undeveloped Areas.

Grand Terrace is located near two major fault zones; the San Andreas and the San Jacinto. The primary hazards associated with seismic activity are surface rupture, ground shaking, and ground failure. In an earthquake, the City could sustain considerable damage, including shifting of buildings from foundations, breakage of underground pipes, and opening of ground cracks.

Implementation Policies:

- THE CITY'S DISASTER PREPAREDNESS PLAN SHALL INCLUDE EMERGENCY PROCEDURES FOR EARTHQUAKE SITUATIONS.
- EXISTING STRUCTURES WHICH ARE SEISMICALLY UNSOUND SHALL BE IDENTIFIED AND PROGRAMMED FOR MITIGATION OR REMOVAL WHERE NECESSARY TO PROTECT THE PUBLIC SAFETY. CULTURAL AND HISTORIC SIGNIFICANCE OF BUILDINGS SHALL BE CONSIDERED IN THIS PROGRAM.

▫ **FLOOD
HAZARDS**

Issue Assessment - (MEA Reference: II-A-2)

Major Significance: Designated 100-Year Flood Plain Areas.

Grand Terrace was included in a San Bernardino County Federal Flood Insurance Study published in June 1981. The only flood prone area within the City is a low-lying zone adjacent to the Santa Ana River. This area is considered unsuitable for habitable structures because of potential flood danger.

Sheet flow of rain water from hillside areas has resulted in some localized street flooding in the southern portion of the community. A storm drain system has been proposed to alleviate this problem.

Implementation Policies:

- FLOOD HAZARD AREAS OF THE CITY SHALL BE IDENTIFIED. SPECIAL DEVELOPMENT STANDARDS SHALL BE APPLIED TO ANY NEW CONSTRUCTION AND/OR CHANGE IN LAND USE WITHIN THESE AREAS. THIS IS PARTICULARLY IMPORTANT AS IT RELATES TO HILLSIDE AREAS.
- RELIEF OF EXISTING FLOODING PROBLEMS IN DEVELOPED AREAS SHALL HAVE PRIORITY IN THE CITY'S CAPITAL IMPROVEMENTS PROGRAM OVER CONSTRUCTION OF NEW FLOOD CONTROL SYSTEMS TO PERMIT NEW DEVELOPMENT.
- THE CITY SHALL COORDINATE FLOOD CONTROL EFFORTS WITH APPROPRIATE JURISDICTIONS (I.E. CITY OF COLTON AND SAN BERNARDINO COUNTY).

◦ **FIRE HAZARDS** Issue Assessment - (MEA Reference: 11-A-3)

Major Significance: City-Wide.

The most serious fire threat within the planning area relates to man-made features; forest fires are not a hazard. Brush fire presents a problem to hillside and in some undeveloped portions of the City. Private weed abatement efforts greatly reduce the risk of this hazard.

Implementation Policies:

- THE DISASTER PREPAREDNESS PLAN SHALL INCLUDE EMERGENCY PROCEDURES FOR FIRE SITUATIONS.
- EXISTING STRUCTURES WHICH TEND TO INCREASE FIRE HAZARD SHALL BE IDENTIFIED AND PROGRAMMED FOR MITIGATION OR REMOVAL WHERE NECESSARY TO PROTECT THE PUBLIC SAFETY. HISTORIC/CULTURAL SIGNIFICANCE OF BUILDINGS SHALL BE CONSIDERED.
- FIRE SAFETY REGULATIONS FOR HILLSIDE AREAS, CONSISTENT WITH STATE AND COUNTY POLICIES, SHALL BE INCORPORATED INTO THE CITY'S ZONING CODE. THEY ARE TO INCLUDE STANDARDS FOR ROOFING MATERIAL, SETBACKS, AND OTHER MEASURES AS APPROPRIATE.

◦ **HAZARDOUS MATERIALS** Issue Assessment - (MEA Reference: 11-A-4)

Moderate Significance: City-Wide.

There are many chemicals, a number in common usage, whose environmental and health effects are unknown, as well as some that have been proven harmful. Exposure to toxic substances can occur in many different ways, including: in the air; in drinking water; in food; in drugs and cosmetics; and in the work place.

Hazardous wastes generated by industrial processes are always a potential problem. It's not known to what extent this is a concern in the local community since no specific base data is available.

In addition, hazardous materials are likely to be transported through Grand Terrace by rail or freeway. The possibility of accidents involving vehicles carrying such materials does exist.

Implementation Policies:

- UNLICENSED DUMPING OF TOXIC OR HAZARDOUS MATERIALS INTO THE GROUND OR WATER IN GRAND TERRACE SHALL BE PROHIBITED.
- STORAGE OF INDUSTRIAL CHEMICALS AND OTHER POTENTIALLY HAZARDOUS SUBSTANCES SHALL MEET ALL APPLICABLE FIRE PREVENTION REGULATIONS.

▫ **SAFETY
HAZARDS**

Issue Assessment - (MEA Reference: II-A-6)

All urban cities are faced with the possibility of major disasters which threaten life, safety, and belongings.

The City of Grand Terrace maintains a Disaster Preparedness Emergency Plan as a means of coping with this situation and assuring the highest state of readiness.

Implementation Policies:

- THE CITY SHALL ADOPT, ANNUALLY REVIEW, AND ADEQUATELY PUBLICIZE A CITY DISASTER PREPAREDNESS PLAN. THIS PLAN WILL INCLUDE POLICIES FOR COORDINATION BETWEEN THE CITY, SAN BERNARDINO COUNTY AGENCIES, PUBLIC UTILITIES, AND SPECIAL DISTRICTS.
- THE GENERAL PLAN WILL INCLUDE PROVISIONS FOR COORDINATION WITH POLICE AND FIRE SERVICES, AS WELL AS THE CITY'S PUBLIC WORKS DEPARTMENT AND THE WATER DISTRICT, TO INSURE ADEQUATE STAFFING AND LOCATION OF FACILITIES TO PROTECT THE COMMUNITY.
- TRAFFIC SAFETY SHALL BE EMPHASIZED THROUGH CAREFUL REVIEW OF DEVELOPMENT PLANS.

◦ **NOISE
HAZARDS**

Issue Assessment - (MEA Reference: II-A-5)

In the Grand Terrace Planning Area, there are two principal sources of noise emissions, which reach or exceed 65 dB CNEL:

Moderate Significance: Areas Adjacent to Freeways and the Railroad.

1. Railroad Lines - operations on the Southern Pacific and Santa Fe lines; and

2. Freeway - traffic from the Riverside Freeway (1-215E). Trucks are the primary source of freeway noise, although this source will be reduced somewhat in future years as the California Vehicle Code Standards are enforced and older trucks are replaced with new, quieter trucks.

As urbanization within Grand Terrace and the surrounding region continues, the intensity and duration of noise generated by transportation facilities serving this development is anticipated to increase. Of the two principal noise sources, traffic noise has the greatest potential for creating adverse impacts. This fact is recognized by both local and regional planning agencies.

**RELATIONSHIP TO
STATE NOISE
ELEMENT
GUIDELINES:**

California Government Code, Section 65302(g). requires local General Plans to contain a noise element which includes contours describing present and projected noise levels associated with major transportation systems. Such contours are to be shown in minimum increments of five decibels and continued down to 65 dBA.

In addition, conclusions regarding appropriate compatible land use are to be identified within the plan.

These contours are included as Figure III-1. Table III-1 describes land use compatibility guidelines.

Implementation Policies:

- FUTURE DEVELOPMENT WITHIN NOISE IMPACT AREAS SHALL BE CAREFULLY REVIEWED PRIOR TO CITY APPROVAL TO ENSURE THE BEST POSSIBLE ENVIRONMENTAL QUALITY FOR RESIDENTS, WORKERS AND SHOPPERS.
- NEW RESIDENTIAL CONSTRUCTION IN AREAS IMPACTED BY NOISE SHALL INCLUDE ADEQUATE SOUND INSULATION, WITH SPECIAL ATTENTION GIVEN TO SENSITIVE RECEPTORS (E.G., CONValescent HOSPITALS).

TABLE III-1
LAND USE COMPATIBILITY FOR
COMMUNITY NOISE EQUIVALENT LEVELS (CNEL)

LAND USE	CNEL VALUE					
	45	55	65	75	85	95
Mobile Homes						
Single-Family, Town-house, Apartment						
Hotels, Motels						
Schools, Churches, Libraries						
Auditoriums, Concert Halls						
Parks, Playgrounds						
Offices						
Retail Commercial, Theatres, Restaurants						
Wholesale Commercial, Light Industrial						
Farming/Groves						

Clearly Acceptable	Normally Acceptable	Normally Unacceptable	Clearly Unacceptable

Clearly Acceptable: The noise exposure is such that the activities associated with the land use may be carried out with essentially no interference from aircraft noise. (Residential areas: both indoor and outdoor noise environments are pleasant.)

Normally Acceptable: The noise exposure is great enough to be of some concern, but common building constructions will make the indoor environment acceptable, even for sleeping quarters. (Residential areas: the outdoor environment will be reasonably pleasant for recreation and play.)

Normally Unacceptable: The noise exposure is significantly more severe, so that unusual and costly building constructions are necessary to ensure adequate performance of activities. (Residential areas: barriers must be erected between the site and prominent noise sources to make the outdoor environment tolerable.)

Clearly Unacceptable: The noise exposure at the site is so severe that construction costs to make the indoor environment acceptable for performance of activities would be prohibitive. (Residential areas: the outdoor environment would be intolerable for normal residential use.)

Source: HUD Noise Assessment Guidelines, August, 1971.



— Noise 65 dBA

Figure III - 1

**Sound Level Contours
for Freeway and
Railroad Noise**

City of Grand Terrace

0 2000 4000 Feet



NATURAL RESOURCES ELEMENT

NATURAL RESOURCES ELEMENT

GOAL:

CONSERVATION OF ENERGY AND OTHER CRITICAL NATURAL RESOURCES THROUGH A COMPREHENSIVE PROGRAM TO PROJECT AND ENHANCE THE NATURAL ENVIRONMENT.

"Resources" is "something that lies ready for use or can be drawn upon... to take care of a need". Natural resources of significance to the typical city, including the City of Grand Terrace, are usually defined as water, air, energy, and, (to a lesser degree), soils. Other natural resources which are not significant to the City include minerals, forests, rare and endangered plants, as well as fish and wildlife.

° WATER AND ENERGY RESOURCES

Issue Assessment - (MEA Reference: II-B-1, II-B-3)

Major Significance: Community Wide

Grand Terrace relies almost exclusively on wells for its water supply. The present supply and capacity appears adequate to meet current and projected needs, including fire flow requirements.

Pollution of wells, while not a problem at this time, has been of concern in the recent past.

Other than solar power potential, the City of Grand Terrace contains no energy resources that can be economically developed. The potential for inclusion of energy-saving devices and building techniques in new construction has not yet been fully examined.

Implementation Policies:

- ENERGY AND WATER CONSERVATION SHALL BE ENCOURAGED BY INCORPORATION OF DESIGN STANDARDS FOR NEW DEVELOPMENT WHICH MINIMIZE THE CONSUMPTION OF NON-RENEWABLE ENERGY RESOURCES. DEVELOPERS ARE SPECIFICALLY ENCOURAGED TO PRESENT INNOVATIVE TECHNIQUES TO THE CITY FOR REVIEW AND CONSIDERATION.

- THE CITY SHALL INITIATE AN ACTIVE WATER AND ENERGY CONSERVATION PROGRAM. THIS COULD BE ACCOMPLISHED IN CONJUNCTION WITH PROGRAMS CURRENTLY OPERATED BY THE MAJOR UTILITY COMPANIES. INCENTIVES FOR DEVELOPMENTS WHICH UTILIZE CONSERVATIVE TECHNIQUES TO SAVE ENERGY AND CONSERVE RESOURCES WOULD BE PROVIDED.

° AIR QUALITY RESOURCES

Issue Assessment - (MEA Reference: 11-B-2)

Moderate Significance: Community Wide

Grand Terrace is downwind from air that passes over many pollution sources. As a result, Grand Terrace, as well as the surrounding region, is severely impacted. Air Quality is a regional concern, under the jurisdiction of the Southern California Air Quality Management District. Air quality monitoring stations are located in Riverside, Redlands and San Bernardino.

Implementation Policy:

- THE CITY SHALL PROMOTE THE GROWTH OF "CLEAN" INDUSTRY WHICH DOES NOT INCREASE AIR POLLUTION.

° SOILS/ AGRICULTURAL RESOURCES

Issue Assessment - (MEA Reference: 11-B-4)

Major Significance: Currently Producing Agricultural Areas

Soils in and around Grand Terrace are classified as having few limitations or hazards, excepting those hillside areas. Simple conservation practices are needed when cultivated. They are suited to cultivated crops, pasture, range, woodland, or wildlife.

Despite the suitability of the soils in Grand Terrace to sustain agriculture, the amount of urbanization in the community, and the pressures for additional development, severely constrain the viability of agriculture as a permanent use. As a means of preserving the agricultural history of the area, the City has recently adopted an Agricultural Overlay District within the Zoning Ordinance, to allow agricultural production and animal keeping on suitably sized properties.

Implementation Policy:

- EXISTING AGRICULTURAL USES SHALL BE PERMITTED TO REMAIN AT THE OWNER'S PREROGATIVE. TRANSITION OF AGRICULTURE TO MORE URBANIZED USES IS EXPECTED, AND IS CONSISTENT WITH CITY OBJECTIVES FOR THE FUTURE.

AESTHETIC, CULTURAL, AND
RECREATIONAL RESOURCES ELEMENT

AESTHETIC, CULTURAL AND RECREATIONAL
RESOURCES ELEMENT

GOAL: ENRICHMENT OF THE COMMUNITY BY OPTIMIZING THE AVAILABILITY AND USEFULNESS OF THE CITY'S AESTHETIC, CULTURAL AND RECREATIONAL RESOURCES.

The aesthetic, cultural and recreational resources of a city include those programs and facilities which refresh or enhance people's minds and bodies. These consist of parks and recreation, scenic vistas, and cultural resources in the City of Grand Terrace.

° RECREATIONAL RESOURCES Issue Assessment - (MEA Reference: II-C-1)

Parks and recreation facilities are primarily provided by the City's Community Services Department. Terrace Hills Community Park (5.35 acres), located on DeBerry Street in the central portion of the City, is the largest existing park within the community. The park provides playfields for active recreation and is located adjacent to the grounds of Terrace Hills Junior High School which provides additional facilities for active recreation, including a swimming pool. The school facilities are owned and maintained by the Colton Unified School District. Griffin Park (1.6 acres) is a small linear park located along the Metropolitan Water District easement in the northeastern portion of the City which provides a connection between Merle Court and Observation Drive. It is intended primarily for passive recreational use. In addition, the City has been negotiating for the use of a ten acre parcel of land owned by Southern California Edison as a park site. This park is to be known as Pico Park and will provide an opportunity for field sports facilities in the southwestern portion of the City. However, lease restrictions will prevent the City from developing any permanent structures on the site such as a gymnasium, restrooms, snackbar and community meeting rooms. Such permanent structures have been identified by the community as definitive recreational needs and, therefore, this park will not fulfill desired long-term recreational goals. The playgrounds and playfields of Grand Terrace and Terrace View Elementary Schools also currently provide facilities for active recreational purposes at the neighborhood level. Approximately 5.0

acres of recreational area is available for public use at each of these schools. An agreement exists between the City of Grand Terrace and the Colton Unified School District for the use of these schools for public recreational purposes.

TABLE V-1
EXISTING RECREATIONAL FACILITIES

City of Grand Terrace

Terrace Hills Community Park	5.4 acres
Pico Park (interim)	10.0 acres
Griffin Park	1.6 acres

Colton Unified School District

Terrace Hills Junior High School	9.0 acres
Grand Terrace Elementary School	5.0 acres
Terrace View Elementary School	<u>5.0 acres</u>

Total	36.0 acres
-------	------------

Local park and recreation standards have been established to determine the appropriate size, type and number of recreational facilities needed to adequately serve a given population. These standards describe the basic conditions needed to fully serve a diverse population and can be used as a gauge to assess the adequacy of recreational facilities in the City of Grand Terrace. The Grand Terrace General Plan adopted in 1983 established a minimum park acreage standard of 3.0 acres of parkland per 1,000 City residents. At the time of the 1988 General Plan update, the City had attained and exceeded this standard for park acreage. Despite the attainment of this goal, a perceived need still exists within the community for additional park and recreational facilities. In particular, the City wishes to develop additional community-level park space with facilities for active recreation and organized play.

In order to establish a new and higher standard for parkland acreage and reflect the objective of developing a community-level park, a total of 4.0 acres of local parkland per 1,000 City residents is recommended as a minimum standard to serve local recreational needs. This is a conservative, yet adequate, parkland standard which provides a realistic goal for the acquisition of park acreage over the life of this plan. While some communities have adopted a higher parkland standard, the recommended overall standard of 4.0 acres per 1,000

residents is considered reasonable for a low-density community such as Grand Terrace at this time. It should be emphasized that this represents a minimum standard and the acquisition of park acreage which exceeds this standard should not be discouraged. Parkland standards and recreational facilities should be regularly reassessed to ensure that they continue to accurately accommodate the needs of the community.

Parks are commonly organized in a hierarchy based upon size and service area, and can include general or special purpose facilities, as needs require. Mini-parks, neighborhood parks and community parks are considered local parkland and are commonly found in communities of almost any size. Metropolitan and regional parks are designed to serve a large population and are not usually included in the park systems of smaller communities.

-- Mini-Park

A mini-park or vest pocket park is intended to serve the special needs of a small portion of a neighborhood, usually a population of 500 to 2,500 people in a service area of no more than a quarter mile radius. A mini-park may be a playlot for local children, a socializing area for seniors, or any other type of active or passive space depending upon the needs of the neighborhood. The size and location of the park usually depends upon the availability of vacant land more than any other factor. In low-density, single-family communities such as Grand Terrace, mini-parks are less frequently established than in high-density areas, since private yards usually accommodate the purposes otherwise served by mini-parks.

-- Neighborhood Park

Neighborhood parks often adjoin elementary schools and usually serve a population of 2,000 to 10,000 people in a half mile radius service area. These parks usually contain active recreation areas such as ball diamonds, playgrounds, game courts and playfield as well as passive areas for relaxation, sitting and sometimes picnicking. A neighborhood park should be accessible to pedestrians and bicyclists, and should provide some automobile parking area. The recommended minimum size for a neighborhood park is five acres.

-- Community Park

Community parks are intended to serve several neighborhoods and often contain recreation facilities which require more space than the neighborhood park sites can easily accommodate. These facilities may include a tennis complex, swimming pool, special purpose courts or a community center along with the usual playfields. These parks are preferably located near a major thoroughfare for easy access. The recommended minimum size for community parks is 20 acres and, because of their large size, location is often dependent upon the availability of land. Community parks are intended to serve a population of 10,000 to 50,000 with a service radius of one to two miles.

As a matter of local public policy, the City should actively endeavor to achieve and maintain the minimum standards for recreational facilities as put forth in this element. Park acreage should ideally be distributed among the various classifications of park types described above, as needs indicate. Facility standards for specific activities must also be considered in recreational programming and in facility use and allocation decisions.

The standards presented in Table V-3 provide a guide for the provision of various recreational facilities based upon national criteria. Using these standards, the provision of adequate facilities needed to serve an ultimate City population of 14,408 persons can be estimated. The minimum number of each type of facility which should be provided based upon these standards is shown in Table V-3. The City already exceeds the minimum recommended number of facilities for certain activities such as volleyball and soccer. In a community the size of Grand Terrace, certain facilities can be combined to serve multiple purposes. For instance, football and soccer can be accommodated in a joint-use playfield and a single center could achieve the purposes of a neighborhood center, a community center and a multiple recreational court facility (gymnasium). Even if the City achieves the standards for the amount or number of facilities, there should be a continuing effort to assess the quality of these facilities and perform upgrades, as necessary.

TABLE V-2
PARK STANDARDS

Type	Acres/ 1,000 people	Size Range	Service Area
Mini	.25 - .5	1 acre or less	.25 mile
Neighborhood	1.0 - 2.0	5 - 20 acres	.25 - .5 mile
Community	2.0 - 8.0	20 - 100 acres	1 - 2 miles

TABLE V-3
FACILITY STANDARDS

Facility	Unit/Population	Service Area	Future City Needs*
Basketball	1 per 5,000	.25 - .5 mile	3
Tennis	1 per 2,000	.25 - .5 mile	7
Volleyball	1 per 5,000	.25 - .5 mile	3
Baseball	1 per 5,000	.25 - .5 mile	3
Baseball Lighted	1 per 30,000		1
Softball (and youth baseball)	1 per 5,000	.25 - .5 mile	3
Football	1 per 20,000	15 - 30 min. travel	1
Soccer	1 per 10,000	1 - 2 miles	1
Multiple Recreation Court (basketball, volleyball, tennis)	1 per 10,000	1 - 2 miles	1
Swimming Pools	1 per 20,000	15 - 30 min. travel	1
Neighborhood Center	1 per 10,000		1
Community Center	1 per 25,000		1

* Based upon an ultimate population of 14,408.

Source: National Recreation and Parks Association

The amount of local parkland currently available to City residents totals 36 acres. This amounts to 3.6 acres of parkland per 1,000 residents based upon an estimated City population of 9,877 in 1987. This falls slightly short of the minimum amount of parkland recommended to adequately serve the 1987 population of the City. The existing system of parks also does not provide the range of recreational facilities desired by the community. At this time, none of the existing parks contain a fully-developed range of facilities for organized field sports nor permanent facilities for other community activities such as a gymnasium and community center. In addition, Pico Park is a limited-use facility since restrictions prohibit the development of any permanent structures. Since Pico Park is restricted in use and is not a City-owned facility, it will not adequately serve the long-term needs of the community.

With an ultimate population of 14,408 persons projected to reside in the City by the year 2010, the amount of existing park acreage will be even less adequate to serve the community. To serve future population of this size, a minimum of 58 acres of local parkland should be available to City residents. It is recommended that the City of Grand Terrace endeavor to meet and exceed the minimum standard for park acreage in order to provide a high level of recreational opportunity to City residents and also provide the types of recreational facilities desired by the community. Toward accomplishing this objective, the City should plan to acquire a ten to twenty acre site for a new permanent park with full facilities for various organized field sports and other community activities. This facility would be classified as a community park. Such a park should be designed to service the City as a whole and, as such, should be easily accessible to all segments of the community. The requirements for a large site with large areas of fairly level ground will probably necessitate that this park be located in the southwestern portion of the City. Arrangements will need to be made to acquire this new park site before this area becomes substantially developed. It is recommended that the additional park acreage needed to achieve the standards of this plan be realized through expansion at the neighborhood park level. City Ordinance 44 and Resolution 818 provide specific standards and implementation procedures for the application of developer contributions for new parkland, pursuant to the Quimby Act.

Implementation Policies:

- THE CITY SHALL MAINTAIN AND OPERATE PARK AND RECREATION FACILITIES WHICH ARE ADEQUATE FOR THE EXISTING AND PLANNED POPULATION, IN ACCORDANCE WITH CITY ORDINANCE NO. 44 AND RESOLUTION NO. 818.
- CONTINUE JOINT USE AGREEMENTS WITH THE SCHOOL DISTRICT FOR THE RECREATIONAL USE OF SCHOOL GROUNDS BY CITY RESIDENTS.
- SURVEY, ACQUIRE, AND RESERVE LAND FOR FUTURE RECREATIONAL USE WHICH WILL SATISFY IDENTIFIED RECREATIONAL NEEDS AND DEFICIENCIES.
- REQUIRE THE PROVISION OF USEFUL RECREATIONAL OPEN SPACES WITHIN NEW RESIDENTIAL DEVELOPMENTS.
- ENCOURAGE THE DEVELOPMENT OF COMMERCIAL RECREATIONAL FACILITIES TO SUPPLEMENT PUBLIC FACILITIES.
- PERIODICALLY REEVALUATE THE ALLOCATION AND USE OF PARK AND OPEN SPACE LAND TO ENSURE THAT EXISTING FACILITIES ARE MEETING THE RECREATIONAL NEEDS OF THE COMMUNITY.
- EVALUATE THE OPPORTUNITIES AND DEFICIENCIES AT EACH FACILITY TO DETERMINE IF THE CITY'S RECREATIONAL OPEN SPACES COULD BE EFFECTIVELY UPGRADED TO IMPROVE THEIR USEFULNESS AND QUALITY.
- SIGNIFICANT OPEN SPACE SHOULD BE PROTECTED TO THE DEGREE FEASIBLE. SPECIAL CONSIDERATION SHOULD BE GIVEN TO ENVIRONMENTALLY SENSITIVE ZONES SUCH AS STEEP SLOPES AND FLOOD PLAINS.

° AESTHETIC RESOURCES

Issue Assessment - (MEA Reference: 11-C-2)

Scenic views of nearby hills and the valley to the north are prominent from a number of locales within the community. Several recently constructed housing tracts have been oriented to take advantage of these views.

There are no designated scenic highways within Grand Terrace.

Implementation Policies:

- SCENIC RESOURCES SHOULD BE PROTECTED FROM HARMFUL IMPACTS AND MAINTAINED AS COMMUNITY ASSETS.
- DESIGN OF NEW DEVELOPMENT SHALL RESPECT AND PRESERVE THE VIEW OPPORTUNITIES OF EXISTING DEVELOPMENT IN THE AREA.

° **CULTURAL
RESOURCES**

Issue Assessment - (MEA Reference: II-C-3)

There are few reminders of the region's history within Grand Terrace. No structures are known to predate 1900, although the historic Lopez Adobe and Agua Mansa Cemetery are located within a few miles of the community. The only structure considered to have any local historic interest is the original Grand Terrace School on Barton Road, east of the Riverside Freeway. It has long been a City landmark.

Implementation Policies:

- THE CITY SHALL SEEK SUPPLEMENTAL FUNDING SOURCES (INCLUDING PRIVATE SUPPORT) TO MEET FUTURE NEEDS OF THE LIBRARY.
- HISTORIC RESOURCES OF THE COMMUNITY SHALL BE INVENTORIED AND PROTECTED FROM HARMFUL IMPACTS.

COMMUNITY DEVELOPMENT ELEMENT

COMMUNITY DEVELOPMENT ELEMENT

GOAL: BALANCED GROWTH WHICH SEEKS TO PROVIDE OPPORTUNITIES FOR A WIDE RANGE OF EMPLOYMENT AND HOUSING AND MAINTENANCE OF A HEALTHY, DIVERSIFIED ECONOMY.

To develop is defined as "to cause to become gradually fuller, larger, better ...". Community development can, therefore, describe the process of improving and "bettering" the city. It includes a program of actions which deal with the physical problems and opportunities which confront the community.

◦ **LAND USE** Issue Assessment - (MEA Reference: II-D-1)

Major Significance: Community-Wide.

Grand Terrace today is a mixture of uses. It is principally a low density residential community with supporting commercial and industrial activities. The City's incorporated area is 39% residential, 5% commercial, 33% industrial, and 22% undeveloped (including agriculture) of which approximately 15% (357 acres) is potentially developable. The City is bisected by a major freeway, several utility corridors, and two railroad lines, one of which is an AT & SF main line. The need to integrate new development with developed portions of the City calls for special attention. This includes not only insuring that future development is in keeping with the character of Grand Terrace, but also that adequate services can be provided.

**LAND USE
POLICY MAP** This General Plan defines land use policy for the City through this element and the General Plan Land Use Policy Map, see Figure VI-1. A large scale version is available at the City Administrative Office.

This Policy Map describes the general pattern of land uses at buildout. The expected time frame for this buildout is assumed to be through the year 2010. However, circumstances of owner intent, interest rates, market demand, and many other variables will obviously affect this process. The map should be interpreted as a general guide to the amount, type, and relationship of land uses.

TABLE VI-1
GENERAL PLAN LAND USE MAP
ACREAGE BREAKDOWN

			Vacant		
	Acres	%	Acres	% Total	% Total City
Rural Land/Open Space					
Hillside Overlay	139	6%	139	28%	6%
Total Rural Land/ Open Space	139	6%	139	28%	6%
Low Density Residential	999	42%	101	22.3%	4%
Hillside Overlay	101	4%	101	20.3%	4%
Total Low Density Residential	1,100	47%	202	42.6%	9%
Medium Density Residential	172	7%	9.7	2.0%	.4%
General Commercial	305.5	13%	41	6.2%	2.0%
Office Commercial	29	1%	5.3	1.0%	.2%
Light Industrial	155.5	7%	67	14.0%	3%
Flood Plain Overlay	32	1%	32	6.0%	1%
Total Industrial	187.5	8%	99	20.0%	4%
Public	79	3%	--	--	--
Streets and Highways	353	15%	--	--	--
TOTAL	2,365	100%	496	100%	22%

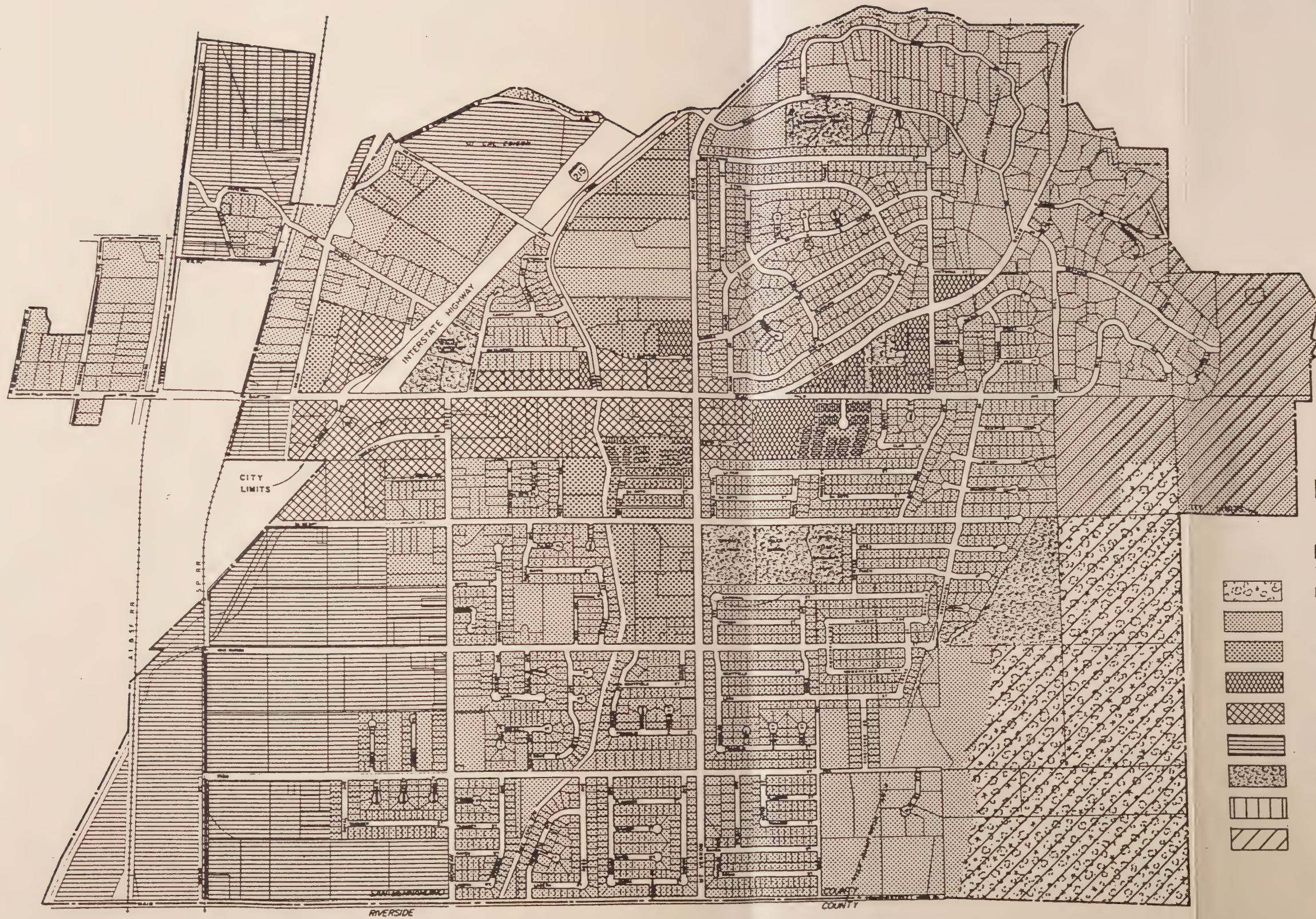
Source: Willdan Associates, 1987

An acreage breakdown of the areas illustrated on the Land Use Policy Map (Figure VI-1) is presented on Table VI-1. The total acreage and percent by land use category, as well as the amount of land which is currently (9/87) vacant within each category, is given. This table establishes parcels that are vacant. The City should establish and maintain a acreage breakdown of properties that are underutilized and have the potential to be recycled into more intensive uses.

The classifications shown on the Policy Map are for General Plan purposes only; and are, therefore, not as detailed as those found on a zoning map. State law requires that the City's zoning be consistent with its General Plan; however, it is common to have more than one zoning classification covered under a single General Plan designation.





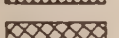
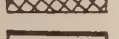
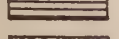


Implementation Policies:

- IMPLEMENTATION OF GENERAL PLAN GOALS SHALL BE REVIEWED ANNUALLY. THIS WILL INCLUDE AN ASSESSMENT OF THE RELATIONSHIP BETWEEN GENERAL PLAN LAND USE DESIGNATIONS AND EXISTING LAND USE AT THE TIME OF THE REVIEW.
- THE CITY WILL ESTABLISH A FORMAL LIAISON WITH ADJACENT JURISDICTIONS, I.E., RIVERSIDE AND SAN BERNARDINO COUNTIES AND THE CITIES OF SAN BERNARDINO AND COLTON, FOR THE PURPOSE OF EVALUATING THE EFFECTS OF EACH JURISDICTION'S LAND USE PLANNING ACTIVITIES ON CONTIGUOUS AREAS.
- GRAND TERRACE'S POTENTIAL ROLE WITHIN THE REGIONAL MARKET AREA WILL BE REVIEWED ANNUALLY AS AN INTEGRAL PART OF THE GENERAL PLAN.
- THE SUPPLY OF VACANT LAND AND UNDERUTILIZED LANDS WITHIN THE CITY SHALL BE ANNUALLY REVIEWED TO CONSIDER CHANGE OF ZONING IN SUPPORT OF GENERAL PLAN GOALS.
- ENHANCEMENT OF THE CITY'S IMAGE SHALL BE UNDERTAKEN BY THE ESTABLISHMENT OF CITY ENTRANCES AND DEVELOPMENT OF UNIFIED STREETSCAPES.



Land Use Plan

Legend

-  RURAL / OPEN SPACE
-  LOW DENSITY RESIDENTIAL
-  MEDIUM DENSITY RESIDENTIAL
-  OFFICE COMMERCIAL
-  GENERAL COMMERCIAL
-  LIGHT INDUSTRIAL
-  PUBLIC FACILITIES
-  FLOOD PLAIN
-  HILLSIDE

City of Grand Terrace

0 2000 4000 Feet



- MIXED-USE DEVELOPMENT WHICH CAN DEMONSTRATE SUPERIOR USE OF LAND, MORE EFFICIENT UTILIZATION OF PUBLIC FACILITIES, AND MORE EFFECTIVE CONSERVATION OF NATURAL RESOURCES SHALL BE STRONGLY ENCOURAGED BY THE CITY OF GRAND TERRACE.

° **SPECIFIC PLANS** Issue Assessment -

Major Significance: All potentially developable portions of the community.

The use of Specific Plans is applicable to all major residential, commercial, and industrial development within Grand Terrace. Its use allows the City to insure that potential development is in keeping with General Plan Goals and Policies. It can significantly reduce the processing time for Tentative Maps, zone changes, and environmental review. Because a targeted area is analyzed in detail and development standards are set, there is no need for other design reviews once the tentative map is approved. A developer's uncertainty about whether a project will be approved is also lessened, since a local legislative body must set its priorities for appropriate land uses when the specific plan is designed. Because the location and size of capital facilities and public improvements have already been decided, a developer knows from the outset how to design a project to take the greatest advantage of the area.

The State Office of Planning & Research describes the contents of a Specific Plan as follows:

"A specific plan must include all detailed regulations, conditions, programs, and proposed legislation which shall be necessary for the systematic implementation of each element of the general plan (Government Code Section 65451).

It must also show existing and proposed land uses by parcel. The section goes on to require that a specific plan include regulations, conditions, programs and proposed legislation regarding:

- The location of and standards for land uses, buildings, and facilities;
- The location of and standards for streets, roads, and other transportation facilities;
- Standards for population density and building intensity and provisions for supporting services;

- Standards for the conservation, development, and use of natural resources;
- Provisions for implementing the open-space element;
- Other appropriate measures.

The contents of the Specific Plan would be prepared by the project developer and be subject to review by City staff and municipal legislative approval.

After adoption of a plan area for projects of ten or more acres, a project would not have to be developed as a unit, but rather could be constructed in smaller portions or phases.

Implementation Policy:

- SPECIFIC PLANS SHALL BE REQUIRED FOR ALL MULTI-FAMILY PROJECTS OF 20 OR MORE UNITS AND SHALL ALSO BE APPLIED TO LOW DENSITY PROJECTS. ALL COMMERCIAL AND INDUSTRIAL PROJECTS OF 10 OR MORE ACRES SHALL BE SUBJECT TO THE SPECIFIC PLAN PROVISIONS.

° RURAL LAND/ OPEN SPACE

Issue Assessment - (MEA Reference: II-A-1)

Major Significance: Hillside Area.

Hillside areas in the southeastern portion of the City having slopes of such magnitude as to preclude any potential development have been designated for permanent open space.

Implementation Policies:

- THE CITY SHALL IDENTIFY AREAS OF ENVIRONMENTAL CONCERN (E.G., STEEP SLOPES, FLOOD PRONE AREAS, GEOLOGIC HAZARDS, ARCHAEOLOGIC/HISTORIC SITES, ETC.) AND PROPERTIES CONTAINING NATURAL SLOPES IN EXCESS OF 15 PERCENT SHALL REQUIRE SPECIAL DEVELOPMENT REVIEW AND CONTROLS BEFORE APPROVAL OF ANY NEW CONSTRUCTION THEREIN IS GRANTED.
- HILLSIDE AREAS IN THE EASTERN PORTION OF THE CITY SHALL BE TARGETED AS A ZONE OF SPECIAL ENVIRONMENTAL CONCERN. SPECIFIC FACTORS TO BE CONSIDERED INCLUDE SLOPE STABILITY, FIRE HAZARD, ACCESS POTENTIAL, AND UTILITY AVAILABILITY.

° PUBLIC
FACILITIES

Issue Assessment - (MEA Reference: II-E, II-H)

Major Significance: City-Wide.

Public facilities are identified under a separated category on the Land Use Policy Map. These include school sites, parks, civic center, and fire station.

Implementation Policy:

- ALL PUBLIC FACILITIES SHOULD BE REVIEWED ANNUALLY TO INSURE THEIR ADEQUACY IN MEETING COMMUNITY NEEDS.

° RESIDENTIAL

Issue Assessment - (MEA Reference: II-D-4)

Major Significance: Potentially developable residential designated areas.

Two residential classifications are defined to meet Plan Policies calling for a range of housing types: low density and medium density

- Low Density Residential (1 to 5 Units per Net Acre)

Areas designated as low density residential either have previously been developed or are proposed to be developed with traditional single-family homes and/or duplexes, triplexes, and fourplexes on sufficiently sized lots consistent with the provisions of the zoning ordinance. This category could also be used within sensitive hillside areas, where the clustering of units would create a beneficial impact to the community while still remaining within the density perimeters of 1 to 5 units per acre. All developments of 20 or more units are subject to the Planned Unit Development/Specific Plan requirements specified within this section.

- Medium Density Residential (6 - 12 Units per Net Acre)

This land use category applies to areas intended for the development of multiple residential unit projects including townhomes, condominiums and apartments at a density up to 12 units per acre. The maximum density of 12 can be exceeded up to 25 percent (maximum 15 units per acre) if the following findings can be made: 1) the approval of the project will achieve other policies as detailed within the General Plan, which will benefit the community as a whole (such as dedication and/or substantial participation in the development of public facilities); and 2) the existing infrastructure, including the surrounding roadway network, can adequately support the increased level of development.

- PUD/SP Residential Planned Unit Development/
Specific Plan Required (applicable to all development
of 20 or more residential units)

This designation applies to all residentially planned areas within the City of Grand Terrace, i.e. Low Density and Medium Density Residential. It applies to all developments of 20 or more residential units and is implemented through the city's zoning ordinance. The Planned Unit Development (PUD) concept implies clustering residential development. This would include a variety of different densities for larger projects, not to exceed the maximum density specified in the relevant zoning classification on the site. The use of the PUD applies to all the Medium Density Residential areas, but could also be used in Low Density Residential areas as well.

Implementation Policy:

- GOAL STATEMENTS AND SPECIFIC IMPLEMENTATION POLICIES RELATIVE TO RESIDENTIAL LAND USES ARE INCLUDED IN THE HOUSING ELEMENT OF THE GENERAL PLAN.

° COMMERCIAL

GOAL:

MAINTENANCE AND CONTINUED DEVELOPMENT OF GRAND TERRACE'S ESTABLISHED COMMERCIAL AREAS, AND ENCOURAGEMENT OF NEW COMMERCIAL DEVELOPMENT.

Major Significance: Potentially developable commercially designated areas.

Issue Assessment - (MEA Reference: II-D-5)

There are 138 acres of commercial property within the City. This is approximately 6 percent of the total acreage of the City. Over 90 percent of the commercial uses are retail outlets, service businesses or restaurants.

Strip commercial uses are located on Barton Road, with the highest concentration between Mount Vernon and Michigan Avenues. A neighborhood shopping center is located at the intersection of Mount Vernon Avenue and Barton Road.

Few offices are located in Grand Terrace, and most are located in mixed commercial and office developments. A free-standing office building has been completed on the south side of Barton Road near the Gage Canal.

Prevention of "strip-commercial" uses along Barton Road is a major concern. It is the intent of the General Plan that new commercial uses be carefully monitored. New commercial uses should relate to existing development. Isolated commercial projects as well as conversion of residential units to commercial use should be limited and prevented wherever possible.

The use of a Specific Plan, as previously described, is required for larger commercial developments (e.g., projects of 10 or more acres).

Two commercial use categories are shown on the Land Use Policy Map.

-- GC, General Commercial:

Retail and related commercial uses, including neighborhood shopping centers.

-- OC, Office Commercial:

Professional and medical offices.

Implementation Policies:

- DEVELOPMENT OF RETAIL AND GENERAL COMMERCIAL USES SHALL BE ENCOURAGED.
- ADDITIONAL FREEWAY SERVICE-ORIENTED COMMERCIAL USES SHALL BE ENCOURAGED.
- COMMERCIAL AREAS ALONG BARTON ROAD SHALL BE DESIGNATED FOR SPECIAL STUDY AND METHODS TO PREVENT "STRIP-COMMERCIAL" TYPE DEVELOPMENT INVESTIGATED; THIS WILL REQUIRE FINANCIAL AND LEGAL COOPERATION BETWEEN LOCAL MERCHANTS, LAND OWNERS, AND THE CITY.

- MEASURES TO REDUCE POTENTIAL LAND USE INCOMPATIBILITY BETWEEN COMMERCIALY DESIGNATED AREAS AND ALL OTHER PLAN AREAS WILL BE GIVEN SPECIAL CONSIDERATION. SPECIFIC FEATURES COULD INCLUDE INCREASED SETBACKS, WALLS, BERMS, AND LANDSCAPING.
-

° INDUSTRIAL

GOAL:

THE CITY SHALL PROMOTE THE DEVELOPMENT OF LABOR INTENSIVE, LIGHT, NON-POLLUTING INDUSTRY WHICH IS COMPATIBLE WITH THE PRESENT LAND USE PATTERN.

Major Significance: Potentially developable industrial designated areas.

Issue Assessment - (MEA Reference: II-D-6)

Much of the industrial land in Grand Terrace is devoted to two Southern California Edison Company facilities: a generation plant in the southern portion of the City and a switching substation at the town's northern border. Industrial uses comprise a total of 124 acres, or 5.2 percent of the total land area in Grand Terrace.

There is a large (60-acre) area in the southwestern portion of the city which could potentially be developed as an industrial park. In addition, there is a 55-acre vacant industrial area in the northwestern portion of the City. Approximately 32 acres of this area are within a designated 100-year flood plain and would require special consideration relative to flooding before development would be allowed. The Specific Plan guidelines outlined in this section would apply to all future development projects of ten or more acres within these areas.

The Land Use Policy Map, has one industrial classification:

-- Light Industrial:

Non-polluting, light manufacturing, warehousing, and distribution uses.

This classification includes a wide range of industrial uses which would be constructed under special industrial development standards.

Implementation Policies:

- ONLY LIGHT NON-POLLUTING INDUSTRIAL USES SHALL BE ALLOWED IN GRAND TERRACE.

- INDUSTRIALLY DESIGNATED AREAS SHALL INCLUDE SPECIFIC "INDUSTRIAL PARK" TYPE DEVELOPMENT STANDARDS AND GUIDELINES.
- BUFFERING TO PREVENT POTENTIAL LAND USE INCOMPATIBILITIES BETWEEN INDUSTRIAL AREAS AND OTHER AREAS SHALL BE GIVEN SPECIAL CONSIDERATION. SPECIFIC FEATURES COULD INCLUDE INCREASED SETBACKS, WALLS, BERMS, AND LANDSCAPING.
- THE CITY'S REDEVELOPMENT AGENCY WILL BECOME INVOLVED IN THE CONSOLIDATION AND ASSEMBLAGE OF PROPERTIES TO ASSURE ADEQUATE SIZED QUALITY DEVELOPMENT WITH AREAS DESIGNATED AS LIGHT INDUSTRIAL

° POPULATION

Issue Assessment - (MEA Reference: II-D-2, II-D-4)

Major Significance: Community Significance

The assessment of population trends is a key facet in the development of a comprehensive General Plan. The implications of potential population growth, or decline, are vital in evaluating future land use policies.

As of April 1987, Grand Terrace had a population of 9,877. This represents a 16 percent increase over the 1980 census figure of 9,410 or average annual growth rate of 2.2 percent per year.

The 1980 census showed a total of 3,282 housing units within the incorporated boundaries of the City. Since 1980 the City has approved 406 units according to the State Department of Finance. In addition, 30 units were absorbed through an annexation. The total unit count as of April 1987 was 3,718.

Future population projections, based on development over the life of the General Plan is shown in Section II-D-2 of the Master Environmental Assessment. Based on straight line projections of both population and number of units, as well as full buildout of vacant and previously approved projects, that ultimate population of the City is estimated to be slightly over 14,000 people.

Implementation Policy

- THE CITY SHALL CONTINUALLY REFINE POPULATION GROWTH FORECASTS TO INSURE ADEQUATE PLANNING FOR ANTICIPATED INCREASED LEVELS OF SEWERAGE, WATER AND OTHER NECESSARY COMMUNITY SERVICES.

INFRASTRUCTURE ELEMENT



Figure VII - 1
Existing Circulation

City of Grand Terrace

0 1000 3000 FT



INFRASTRUCTURE ELEMENT

GOAL: CONSTRUCTION, MAINTENANCE, AND FUTURE PROGRAMMING FOR A COMPREHENSIVE SYSTEM OF STREETS, UTILITIES, AND OTHER PUBLIC SERVICES NECESSARY TO THE PROPER FUNCTIONING OF THE CITY.

"Infrastructure", as used in urban terms, refers to "the basic installations and facilities on which the continuance and growth of a community depend".

This generally includes streets, water, sewer and other utilities, and the rest of the public facilities.

Implementation policies covering all infrastructure factors are found at the conclusion of this element.

° **WATER SYSTEM** Issue Assessment - (MEA Reference: II-E-1)

Major Significance: City-Wide.

The City is served entirely by the Riverside-Highland Water Company, a mutual water company whose jurisdiction extends beyond the limits of Grand Terrace. The company provides water for both domestic and agricultural use, with the domestic demand originating primarily from Grand Terrace.

According to the water company, with the construction of a planned three million gallon reservoir, storage capacities will be adequate to provide and store water for the ongoing growth within the City and to meet the required fire flows.

The water company states that they have no major deficiency problems at present related to capacity or condition of lines. Portions of the system are quite old, however, and certain areas are lacking in valves, resulting in major shutdowns in the event a line must be worked on. The water system could easily be expanded to accommodate future development in vacant portions of the study area. In 1986, the water company initiated a planned program to replace deficient lines and valves within the system. At that time, the estimated cost for this program of phased improvements totaled \$5.5 million.

° SEWERAGE
SYSTEM

Issue Assessment - (MEA Reference: II-E-2)

Major Significance: City-Wide.

The entire City of Grand Terrace, with the exception of several small, isolated areas, is on a sanitary sewer system. The entire system is gravity flow and the majority of the City area drains to the 21-inch trunk main in La Cadena Drive. All of the city sewage eventually is transported to the Colton Regional Treatment Plant. The City of Grand Terrace has a current purchased capacity of 1.6 MGD (average) in the Colton plant. This capacity is adequate at present to service Grand Terrace, as meter readings on the La Cadena trunk line indicate an average flow from Grand Terrace of approximately 1 MGD.

There are currently no existing capacity problems within the City and development that has occurred has not proceeded at the maximum allowable densities. There are, therefore, no projected areas where sewer capacity presents a problem.

The physical condition of the lines themselves is, in general, good, and no problems currently exist because of deterioration.

The projection of future flows at buildout, based on the General Plan Land Use Policy Map, indicates that the purchased capacity and trunk line capacities are adequate. Should an industry be permitted by the City which has a higher discharge factor than that anticipated for commercial and light industry, a review of flows should be made at that time.

° STORM
DRAINAGE
SYSTEM

Issue Assessment - (MEA Reference: II-E-7)

Major Significance: Potentially Developable Properties.

Moderate Significance: City-Wide.

The Grand Terrace area is included in the San Bernardino County Comprehensive Storm Drain Plan, Project No. 3. This plan identifies an integrated plan of storm drains for a study area within the County (which includes Grand Terrace) and details flood control systems necessary for each portion of the study area. The study is used as a guide for the storm drain designs by local agencies, and should be continually reviewed by the City Engineer as development occurs.

Maintenance of the existing system is provided by the County.

° **UTILITY
FACILITIES**

Issue Assessment - MEA Reference: 11-E-4, 5, 6)

Electricity

Electricity is supplied by the Southern California Edison Company. Grand Terrace is within the San Bernardino District of the Edison Company. There are currently no specific power demand problems for serving this area and no major power line projects are currently scheduled.

Natural Gas

Natural gas is supplied by the Southern California Gas Company. They currently do not experience supply problems and feel their facilities are adequate to handle the growth in the Grand Terrace area since it is fed from more than one location.

Communications

Telephone service is provided by Pacific Telephone Company. The recent division of the 714 area code and creation of the new 619 area code has provided an increased amount of numbers to this area. The telephone company currently has no problems serving the Grand Terrace area and does not expect that the continued growth within the city will hamper their ability to provide service.

Comcast cable is the franchise company to provide cable TV to the City of Grand Terrace.

° **SOLID WASTE**

Issue Assessment - (MEA Reference: 11-E-3)

Major Significance: City-Wide.

Solid waste is collected by Loma Linda Disposal Company. Although there are other companies which collect solid waste from individual developments within the City, Loma Linda Disposal handles the vast majority. Their service area covers the entire City limits.

Solid waste is currently hauled to the San Bernardino County Colton landfill site. Plans call for this site to cease operations in the very near future, at which time waste would be hauled to the County's San Timoteo landfill site.

° CIRCULATION

Issue Assessment (MEA Reference: II-F-1)

Major Significance: Community-Wide

The present vehicular circulation system in the City of Grand Terrace is shown in Figure VII-1, Land Use Policy Map. Quantifiable data, e.g. street capacities, volumes, etc., are found in the MEA.

The principal highway through Grand Terrace is Interstate 215, a six-lane freeway with interchanges at Washington Street (north of the City), Barton Road, and Iowa Avenue (southwest of the City).

Current freeway peak hour volumes result in Level of Service "C", defined as "stable flow with speeds and maneuverability closely controlled by volumes". This level of service is usually for urban design standards, and the freeway is, therefore, currently operating adequately. A complete description of the levels of service is included in the Appendix.

The main north-south arterial through the City is Mt. Vernon Avenue, which extends from Highgrove to the south, through Grand Terrace to I-215, and north into Colton. Most of existing Mt. Vernon Avenue between Brentwood Street and I-215 interchange is within the City of Colton consisting of two lanes built into the side of a hill. Widening to secondary highway standards recommended by this plan is not feasible using normal cut/fill construction methods. The use and projected traffic volumes indicate additional capacity may be needed, however, construction costs may be prohibitive. Future construction should be based on a detailed cost/benefit analysis.

The main east-west arterial is Barton Road. It is the most heavily traveled surface street in Grand Terrace and operates during peak hours at levels of Service "A" and "B".

The remaining streets in the circulation system are currently two-lane roadways with relatively low AADT and peak hour volumes. All these roadways operate at Level of Service "A".

° MASTER PLAN STREETS AND HIGHWAYS

Traffic circulation patterns at buildout of the City will, in general, follow current patterns. The major traffic volume attractions will continue to be the freeway and the industrial and commercial employment areas.



Figure VII - 4
Master Plan of Streets
and Highways

City of Grand Terrace

Streets are divided into six categories based on the urban design standard for projected traffic volumes at buildout. Those categories are: 1) Freeway; 2) Major Divided Highway; 3) Modified Major Highway; 4) Major Highway; 5) Secondary Highway; and 6) Collector.

Transportation needs for the area will be handled by this proposed highway system and public transit. If the proposed improvements are not made, the level of service will be greatly reduced and there will be major congestion at the Barton Road/Interstate Route 215 interchange area. Projected Barton Road traffic volumes in the interchange area used for analysis in the last general plan study were nearly equal to traffic volumes determined by the current study.

The Barton Road Corridor, Michigan Street from Commerce Way to Barton Road and the Barton Road/Interstate Route 215 interchange require major improvements to accommodate projected traffic volumes. Table VII-1 indicates the traffic lane configurations necessary to provide a high level of service. Prohibiting parking is necessary to provide required traffic lanes within minimum right-of-way widths.

Barton Road, south of Palm Avenue, is proposed to be improved to modified major highway standards. Barton Road will continue to be the key facility in the Grand Terrace traffic system, by providing access to the commercial-industrial areas, as well as direct access to the I-215 Freeway. La Cadena Drive has been designated as a major divided highway with six lanes of traffic and a raised landscaped median.

Mt. Vernon Avenue and Commerce Way are the only north-south roads that are proposed to be improved to secondary highway standards along their entire lengths. Mt. Vernon Avenue will primarily serve the growing residential areas and the commercial areas around Barton Road.

In the previous General Plan, Michigan Avenue was also proposed as a secondary highway along its entire length. The new land uses require that Michigan Avenue be improved to secondary highway standards only between Barton Road and DeBerry Street.

Main Street, west of Michigan, is the only east-west street that continues to be recommended as a secondary highway. This will be necessary in order to accommodate the increased traffic projected as a result of development of industrial areas in the southwest portion of the City. In this report, Main Street is a proposed collector east of Michigan Avenue since the traffic volumes are projected to be lower through the residential areas.

Additional collector streets are shown on the General Plan Circulation Map. Collectors, as the name implies, collect traffic from local streets and take it to major or secondary highways.

The proposed typical cross section of each roadway classification is shown in Figures VII-2 and VII-3.

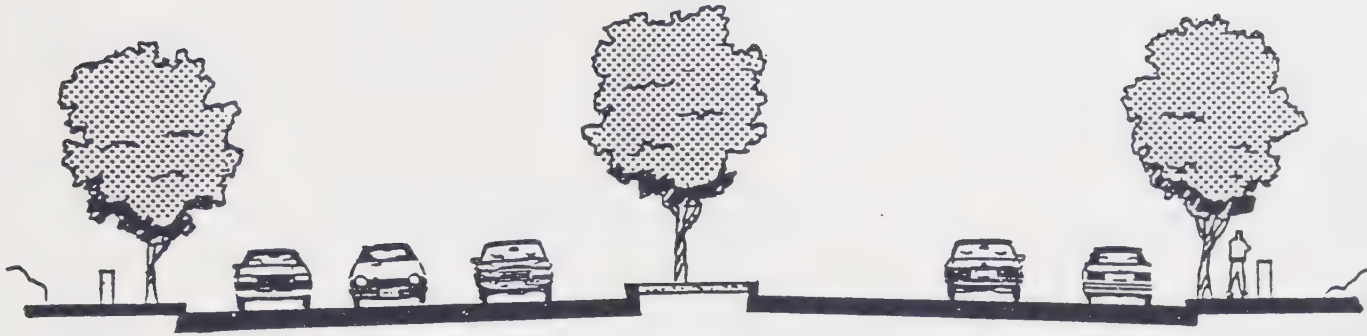
The following street standards are proposed for the various categories:

<u>Street Type</u>	<u>Right-of-Way</u>	<u>Pavement</u>
Divided Major Highway	120'	94'
Modified Major Highway	100'	76'
Major Highway	100'	72'
Secondary Highway	88'	64'
Collector	66'	44'
Local	60'	36'

Two future streets were proposed in the previous General Plan. The extension of Commerce Way is continued to be proposed while the extension of Observation Drive is no longer deemed necessary. The extension of Commerce Way will begin south of Barton Road and will terminate at Main Street. The alignment of Commerce Way will be as shown in the Master Plan of Highways. The location of Commerce Way has been relocated west, adjacent to the Southern Pacific Railroad right-of-way. It will travel north from Main Street to Van Buren Street and continue northeast along I-215E to its original proposed location above DeBerry Street. This section of roadway, along with the existing section of Commerce Way, will be classified as a secondary highway. A portion of Commerce Way is already constructed with a curb-to-curb width of 62 feet. It will not be necessary to widen the additional two feet to conform with the General Plan roadway width requirements. Commerce Way will serve the business and light industrial areas as they continue to develop and will provide a link to the freeway interchange at Iowa Avenue via Main Street.

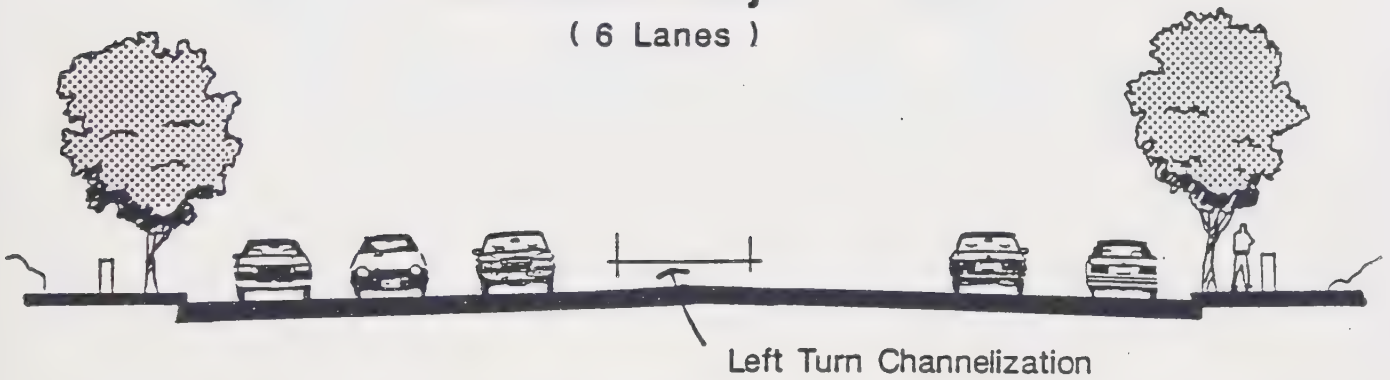
Major Divided – 120'

(6 Lanes, Divided)



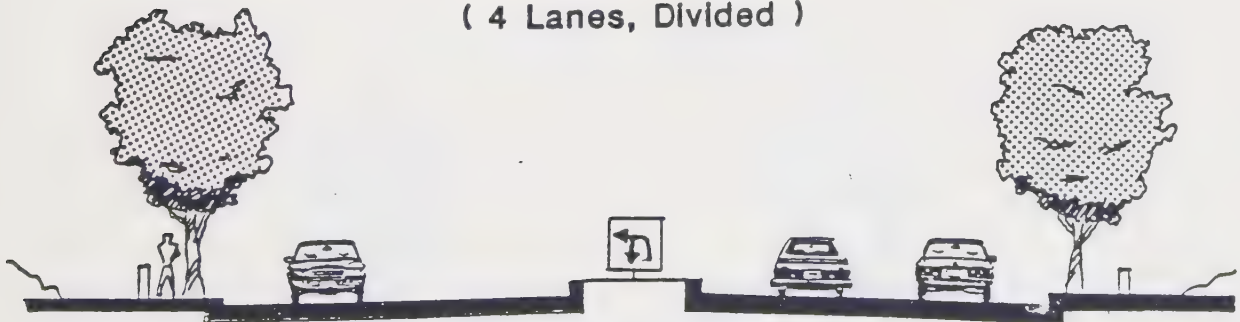
Modified Major – 100'

(6 Lanes)



Major – 100'

(4 Lanes, Divided)



SECONDARY – 88'
(4 LANES, UNDIVIDED)



COLLECTOR – 66'
(2 LANES, UNDIVIDED)



Access across the Gage Canal from Canal Street presents a special circulation problem since the Gage Canal Company has stated they will only allow three crossings. Consideration of crossings will require close coordination between landowners, the Gage Canal Company, and the City.

A map showing the City's Master Plan of Streets and Highways is presented as Figure VII-4.

As development proceeds in the City, it will be necessary to develop programs to monitor traffic situations and to implement solutions for individual problems. These solutions will include roadway striping, regulatory and warning signs, and traffic signals.

All intersections involving secondary and/or major highways and freeway on- and off-ramp intersections should be monitored for adverse traffic conditions. Specific attention should be given to Barton Road west of Mt. Vernon Avenue, as this will continue to be the most heavily traveled surface street in the City.

Concern was not expressed for bikeways in the community. Due to the size of the community, topographical restraints and layout of the street system, bikeways are not proposed. Streets proposed will accommodate bicycle lanes if future needs or demands occur. In the future a regional bikeway plan may be in order to serve the area.

PUBLIC TRANSPOR- TATION

The Riverside Transit Agency (RTA) provides bus service in Grand Terrace. RTA has one bus line (Route 25) through the City which makes eight round trips from downtown Riverside to the V.A. Hospital in Loma Linda on weekdays. Seven round trips are made on Saturdays and no service is provided on Sundays. Buses operate approximately every one and one-half hours. RTA does not, at this time, operate a dial-a-ride system in Grand Terrace.

Route 25 links Grand Terrace to the regional public transit. The line may be taken to downtown Riverside where connections can be made to the Southern California Rapid Transit District buses to Los Angeles and San Bernardino. Public transit to Ontario Airport and AMTRAK's San Bernardino station is also accessible through downtown Riverside.

Implementation Policies:

- EXTENSION OF UTILITIES SERVICES AND OTHER FACILITIES WITHIN THE CITY LIMITS WILL BE BASED UPON AN ADOPTED CITY CAPITAL IMPROVEMENT PROGRAM.

- CITY-WIDE CIRCULATION DEMANDS WILL BE SATISFIED BY A PLANNED EXPANSION OF NEW CONSTRUCTION OF STREETS AND HIGHWAYS AS PART OF THE CAPITAL IMPROVEMENTS PROGRAM.
- THE FISCAL PROGRAMMING OF ON-GOING STREET MAINTENANCE AND IMPROVEMENTS WILL CONSIDER THE USE OF SPECIAL ASSESSMENTS TO THOSE PROPERTIES WHICH MOST DIRECTLY BENEFIT.
- COMMITMENT OF PUBLIC FUNDS TO PROVIDE NECESSARY OFF-SITE IMPROVEMENTS FOR DEVELOPMENT OF VACANT PRIVATE PROPERTY WILL CONSIDER THE NET REVENUE WHICH THE DEVELOPMENT WILL PRODUCE FOR THE CITY OVER TIME.
- PUBLIC TRANSIT WILL BE ENCOURAGED BY CITY PARTICIPATION IN LOCAL AND REGIONAL TRANSIT PROGRAMS AND, BY SPECIAL CONSIDERATION IN LARGE, NEW DEVELOPMENTS WHEREVER FEASIBLE.
- THE EXTENSION, IMPROVEMENT AND MAINTENANCE OF STREETS WITHIN THE CITY LIMITS WILL BE BASED UPON AN ADOPTED CAPITAL IMPROVEMENT PROGRAM.
- THE PRIORITIZATION OF STREET IMPROVEMENTS WITHIN THE CITY'S CAPITAL IMPROVEMENT PROGRAM WILL BE BASED ON: 1) THE SIZE OF THE AREA OF BENEFIT; 2) THE SEVERITY OF THE PROBLEM THAT THE STREET IMPROVEMENT IS INTENDED TO ELIMINATE; AND 3) THE CITY'S ABILITY TO PROCURE FUNDING THEREFOR.
- THE CITY WILL AGGRESSIVELY PURSUE ALL POTENTIAL SOURCES OF FUNDING FOR STREET IMPROVEMENTS AND MAINTENANCE AND WILL OPTIMIZE THE USE OF SUCH FUNDS. IN CARRYING OUT THIS POLICY THE CITY, OR ITS REDEVELOPMENT AGENCY, WILL:
 - 1. UTILIZE FEDERAL COMMUNITY DEVELOPMENT BLOCK GRANT (CDBG) FUNDS FOR STREET IMPROVEMENTS TO THE EXTENT POSSIBLE.
 - 2. CONTINUE TO USE STATE GAS TAX FUNDS AND OTHER STATE SUBVENTIONS FOR ELIGIBLE STREET IMPROVEMENT AND MAINTENANCE PURPOSES.

3. PURSUE THE USE OF FEDERAL AID URBAN FUNDS FOR IMPROVEMENTS ON ELIGIBLE STREETS.
 4. ALLOCATE TAX INCREMENTS BEING GENERATED BY THE GRAND TERRACE REDEVELOPMENT PROJECT FOR STREET IMPROVEMENTS AS PRIORITIES PERMIT.
 5. PURSUE THE USE OF FEDERAL HIGHWAY SAFETY ACT FUNDS TO ELIMINATE SAFETY HAZARDS ON LOCAL STREETS.
 6. ATTEMPT TO USE ASSESSMENT DISTRICTS WHEN FUNDING IS OTHERWISE UNAVAILABLE, WHEREBY THOSE PROPERTIES DIRECTLY BENEFITTING WOULD BE ASSESSED FOR STREET IMPROVEMENT OR MAINTENANCE COSTS.
 7. UTILIZE THE MELLO ROOS COMMUNITY FACILITIES ACT TO FUND STREET IMPROVEMENTS WHEN REQUESTED BY PROPERTY OWNERS. THIS MECHANISM WOULD BE MOST VIABLE IN THOSE AREAS OF THE CITY WHERE A SIZEABLE AMOUNT OF VACANT OR UNDERDEVELOPED LAND IS OWNED BY A LIMITED NUMBER OF INDIVIDUALS.
 8. ESTABLISH A TRAFFIC IMPACT FEE TO BE ASSESSED ON ALL NEW DEVELOPMENT WITHIN THE CITY. THIS FEE WOULD BE IMPOSED AS A CHARGE PER DAILY VEHICLE TRIP GENERATED BY A PROJECT WITH THE TOTAL NUMBER OF VEHICLE TRIPS CALCULATED ON THE BASIS OF TRIP GENERATION FACTORS GENERALLY ACCEPTED WITHIN THE TRANSPORTATION ENGINEERING PROFESSION. THE FEES COLLECTED IN THIS MANNER WOULD BE UTILIZED FOR CITY-WIDE TRAFFIC CONTROL AND OTHER STREET IMPROVEMENTS.
- THE STREET CROSS-SECTIONS PRESENTED IN THIS ELEMENT WILL SERVE AS THE CITY'S STREET STANDARDS TO WHICH ALL STREET WILL ULTIMATELY BE CONSTRUCTED.
- THE CITY WILL CONTINUE TO OBTAIN STREET DEDICATION ON THE BASIS OF ITS MASTER PLAN OF STREETS AND HIGHWAYS, WHICH IS SHOWN IN FIGURE VII-4 OF THIS ELEMENT, AND THE ASSOCIATED CITY STREET STANDARDS.

- THE CITY WILL REQUIRE THAT ANY MISSING STREET IMPROVEMENTS BE CONSTRUCTED AT THE TIME THAT DEVELOPMENT OCCURS ON VACANT OR UNDERUTILIZED PROPERTY.
- THE CITY WILL PURSUE THE EXECUTION OF A COOPERATIVE AGREEMENT WITH THE CALIFORNIA DEPARTMENT OF TRANSPORTATION (CALTRANS) FOR THE PROPOSED IMPROVEMENTS TO THE BARTON ROAD/I-215 FREEWAY INTERCHANGE, INCLUDING RAMP MODIFICATIONS AND BRIDGE WIDENING.
- THE CITY WILL ESTABLISH UNIFORM STREET LIGHTING AND SIGNAGE STANDARDS.
- THE MINIMUM ACCEPTABLE LEVEL OF SERVICE (LOS) FOR THE LOCAL STREET SYSTEM SHALL BE LOS "C".
- THE CITY WILL CONTINUE TO REQUIRE THAT NEW DEVELOPMENTS PROVIDE ADEQUATE OFF-STREET PARKING IN ORDER TO MINIMIZE THE NEED FOR ON-STREET PARKING.
- THE CITY WILL CONTINUE TO ROUTE TRUCK TRAFFIC AWAY FROM RESIDENTIAL AREAS.
- THE CITY WILL PROMOTE AND FACILITATE THE USE OF THE BICYCLE AS AN ALTERNATIVE MODE OF TRANSPORTATION THROUGH THE DEVELOPMENT OF A CITY-WIDE NETWORK BIKEWAYS.
- THE CITY WILL ENCOURAGE AND FACILITATE PEDESTRIAN MOVEMENT BY CREATING ENVIRONMENTS THAT ARE CONDUCIVE TO WALKING AND MAINTAINING A "HUMAN SCALE" OF DEVELOPMENT.
- THE CITY WILL WORK CLOSELY WITH THE REGIONAL TRANSIT AGENCIES TO ENSURE THE CONVENIENT AND AFFORDABLE BUS SERVICE CONTINUES TO BE AVAILABLE TO LOCAL RESIDENTS.
- THE CITY WILL ENSURE THAT LOCAL STREET IMPROVEMENTS ARE DESIGNED WITH PROPER ATTENTION TO COMMUNITY APPEARANCE AND AESTHETICS AS WELL AS THE NEED TO MOVE TRAFFIC SAFELY AND EFFICIENTLY.

STATEMENT OF GOALS AND OBJECTIVES

Goals and objectives for the Circulation Element are listed in this section.

Goals

- To provide for a transportation system which supports planned land uses and improves the quality of life.
- To promote the safe and effective movement of all segments of the population and the efficient transport of goods.
- To make efficient use of existing transportation facilities.
- To protect environmental quality and promote the wise and equitable use of economic and natural resources.

Objectives

- To encourage State, regional, and local governments and agencies to achieve a coordinated and balanced regional transportation system consistent with the City's social, economic, and environmental needs and goals.
- To develop transportation planning, services, and facilities that are coordinated with and support the land use plan.
- To develop a balanced system of circulation which incorporates motor vehicles, pedestrians, bicycles, and other private and public transportation modes with greater safety and increased energy efficiency.
- To encourage the continuance of a public transportation system that will: 1) provide a viable alternative to the automobile; 2) satisfy the transportation needs of commuters, the economically disadvantaged, the aged, the young, and the handicapped; and 3) promote service at a reasonable and equitable cost to both the users and the general community.

HOUSING ELEMENT

HOUSING ELEMENT

The California Department of Housing and Community Development (HCD) has established guidelines for General Plan Housing Elements. They are also responsible for review of Housing Elements as to conformance with State requirements.

To facilitate this review of Grand Terrace's Housing Element, it has been prepared in a format which conforms to State guidelines but differs from the rest of this General Plan. Integration of the Housing Element with the rest of this Plan is achieved by the following summary of major goals, issues and policies.

HOUSING AVAILABILITY AND PRODUCTION:

GOAL: PROMOTE AND ENCOURAGE A SUPPLY OF HOUSING SUITABLE TO THE NEEDS OF AND SUFFICIENT IN NUMBER TO SERVE EXISTING AND PROJECTED RESIDENTS OF GRAND TERRACE.

Issue Assessment - (MEA Reference: II-G)

Major Significance:

Based upon the "carrying capacity" population, (i.e., the total number of persons within the planning area if it was fully developed in conformance with Land Use Policy Map designations). Up to 1,335 housing units would ultimately be produced.

Current estimates indicate that total buildout of the city will occur sometime after the year 2000. The Southern California Association of Governments' most recent projections indicate that an average of 75 new housing units will be constructed each year over the next 20 years.

Implementation Policies:

- PROMOTE AND ENCOURAGE DEVELOPMENT OF HOUSING WHICH VARIES BY TYPE, DESIGN, FORM OF OWNERSHIP AND SIZE.
- MAXIMIZE USE OF REMAINING VACANT LAND SUITABLE FOR RESIDENTIAL DEVELOPMENT.
- PROMOTE AND ENCOURAGE INFILL HOUSING DEVELOPMENT AND MORE INTENSIVE USE OF UNDER-UTILIZED LAND FOR RESIDENTIAL CONSTRUCTION.

- PROMOTE AND ENCOURAGE USE OF INNOVATIVE CONSTRUCTION METHODS, DESIGN STANDARDS, AND ENERGY CONSERVATION TECHNIQUES IN NEW HOUSING DEVELOPMENT.
 - PROMOTE AND ENCOURAGE CONSTRUCTION OF NEW HOUSING UNITS ON SUITABLE VACANT AND UNDER-UTILIZED PROPERTY AT AN AVERAGE RATE OF 80 UNITS PER YEAR, OR UNTIL SUCH TIME AS ALL VACANT OR UNDER-UTILIZED LAND HAS BEEN DEVELOPED. THE TOTAL NUMBER OF UNITS SHOULD BE CAREFULLY MONITORED TO HELP PREVENT VACANCY RATES FROM RISING ABOVE CURRENT LEVELS.
-

HOUSING AFFORDABILITY:

GOAL: PROMOTE AND ENCOURAGE HOUSING OPPORTUNITIES FOR ALL ECONOMIC SEGMENTS OF THE COMMUNITY, REGARDLESS OF AGE, SEX, ETHNIC BACKGROUND, PHYSICAL CONDITION, OR FAMILY SIZE.

Issue Assessment - (MEA Reference: II-D-3)

Major Significance: City-Wide.

In 1980, 2,297 (75.7 percent) of Grand Terrace's households were at the County median income or above; 631 (20.8 percent) are very low income households (less than 80 percent of the County median). The difference between the City's income distribution and the regional income distribution forms the basis for the City's "fair share" housing allocation from SCAG.

Based on the most recently available housing data from SCAG, Grand Terrace contains 219 lower income households requiring assistance. Thirty-six percent (79 households) are homeowners; 64 percent (140 households) are renters.

Implementation Policies:

- PROMOTE CONSTRUCTION OR AVAILABILITY OF 45 HOUSING UNITS PER YEAR OVER THE NEXT FIVE YEARS, AFFORDABLE TO THOSE WITH INCOMES UP TO 130 PERCENT OF COUNTY MEDIAN INCOME.
- PURSUE AVAILABLE HOUSING ASSISTANCE PROGRAMS FUNDED BY THE STATE AND FEDERAL GOVERNMENTS.

- CONTINUE A POLICY OF EXPEDITIOUS PROCESSING OF RESIDENTIAL DEVELOPMENT PROPOSALS AND PERMITS.
- PROMOTE THE AFFORDABILITY OF EXISTING HOUSING UNITS FOR LOW- AND MODERATE-INCOME HOUSEHOLDS BY CAPTURING FEDERAL HOUSING ASSISTANCE SUBSIDIES FOR THE BENEFIT OF ELIGIBLE CITY RESIDENTS.
- ACTIVELY ASSIST THE SAN BERNARDINO COUNTY HOUSING AUTHORITY IN PLACING SECTION 8 CERTIFICATES IN THE COMMUNITY.

HOUSING CONDITION:

GOAL: TO PROMOTE AND ENCOURAGE THE REHABILITATION OF DETERIORATED DWELLING UNITS AND THE CONSERVATION OF CURRENTLY SOUND HOUSING STOCK.

Issue Assessment - (MEA Reference: II-G-3)

Major
Significance:

A total of only eight dwelling units is substandard, based on the City's Housing Assistance Plan.

Moderate
Significance:

The City should promote the rehabilitation of all deteriorated dwellings over the next five years, and make provision to insure the continued maintenance of all existing units.

Implementation Policies:

- PROMOTE THE REHABILITATION OF DETERIORATED DWELLINGS.
- PURSUE HOUSING REHABILITATION PROGRAMS OFFERED BY THE STATE AND FEDERAL GOVERNMENTS.
- PURSUE COOPERATION WITH COUNTY AGENCIES TO PROVIDE BELOW-MARKET RATE REHABILITATION LOANS FOR BOTH OWNER-OCCUPIED AND RENTAL HOUSING.
- PROMOTE UTILIZATION OF REHABILITATION ASSISTANCE PROGRAMS TO ALLEVIATE OVERCROWDED CONDITIONS.

- PROMOTE MAINTENANCE OF CURRENTLY SOUND HOUSING.
- UTILIZE PUBLIC INFORMATION AND ASSISTANCE PROGRAMS TO ENCOURAGE REPAIR BEFORE MAJOR DAMAGE OCCURS.
- MONITOR HOUSING CONDITIONS IN GRAND TERRACE ANNUALLY. IF EVIDENCE OF DEFERRED MAINTENANCE INCREASES, CONSIDER IMPLEMENTATION OF OCCUPANCY INSPECTION PROGRAM.

HOUSING ASSISTANCE PLAN

HOUSING PLAN AND IMPLEMENTATION POLICY*
CITY OF GRAND TERRACE, CALIFORNIA

Approved Grand Terrace Planning Commission, 9/12/83
Adopted Grand Terrace City Council, 4/26/84
Population Data Updated 1/88

- * This document is the City's Housing Element and is designed to comply with State Housing and Community Development Guidelines.

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I INTRODUCTION

Adequate housing for families and individuals of all economic levels has become an important issue for State and local governments. The issue has grown in complexity due to rising costs and increasing competition for physical and financial resources in both the public and the private sectors.

In response to this concern, the California Legislature amended the Government Code in 1980 to require each local community to include a specific analysis of its housing needs and a realistic set of programs designed to meet those needs in a Housing Element of its General Plan. The requirements of the law are prefaced by several statements of State policy set forth in Section 65580 of the Government Code:

"... The availability of housing is of vital statewide importance, and the early attainment of decent housing and a suitable living environment for every California family is a priority of the highest order."

"... Local and State governments have a responsibility to use the powers vested in them to facilitate the improvement and development of housing to make adequate provision for the housing needs of all economic segments of the community."

"... The legislature recognizes that in carrying out this responsibility, each local government also has the responsibility to consider economic, environmental, and fiscal factors and community goals set forth in the general plan and to cooperate with other local governments and the State in addressing regional housing needs."

The law requires each locality to accomplish the following tasks:

- To identify and to analyze the current and projected housing needs of all economic segments of the community;
- To evaluate current and potential constraints to meeting those needs, constraints due both to operations of the marketplace and to operations of government;
- To inventory and assess the availability of land suitable for residential use and of opportunities for energy conservation in residential use and of opportunities for energy conservation in residential development; and
- To set forth goals, objectives, policies and programs which are responsive to the identified housing needs, governmental and non-governmental constraints, and identified housing opportunities.

This Housing Element has been prepared in accordance with applicable State law. It examines Grand Terrace's housing needs as they exist today, and projects future housing needs. It sets forth statements of community goals, objectives and policies concerning those needs. It

includes a housing program responsive to current and future needs, consistent with available resources. The housing program details a five-year schedule of actions the community is undertaking or plans to undertake to achieve its housing goals and objectives. Upon its adoption by the City Council of the City of Grand Terrace, this Housing Element should be taken as a comprehensive statement of the City's housing policies and as a specific guide for program actions to be taken in support of those policies.

State law recognizes that housing needs may exceed available resources, a recognition most critical in this day of uncertainties as to public fiscal resources and a changing private sector investment climate. As a result, objectives need not be identical to the identified housing needs.

This document has been prepared during a period when fiscal resources at all governmental levels are particularly uncertain, and in which operations of the private marketplace are undergoing substantial change. As a result, the methods for achieving the City's objectives, as stated today, may be less relevant tomorrow or a year from tomorrow. Indeed, the City's ability to meet its objectives may be profoundly affected by future programmatic and funding changes expected at the Federal and State level. Therefore, it is intended that this Housing Element be reviewed annually and be updated and modified not less than every five years to remain relevant and useful to decision-makers, the private sector, and the community. The review and revision of the Housing Element shall be in conformance with Government Code Section 65588.

II HOUSING NEEDS

The housing needs of a community revolve around: 1) the extent to which housing is and will be available to those who need it; 2) the degree to which available housing is and will be affordable by those who need it; and 3) the extent to which the housing stock of the community is in decent and standard condition. This section of the Housing Element sets forth Grand Terrace's housing needs, and identifies needs of special population groups in the community, the elderly, disabled and handicapped, large families, and female-headed households, to the extent that such data is available. Specific action programs included in this Plan are designed to update data and fill in information gaps, identified in this report.

Housing and special assistance needs identified in this section of the Housing Assistance Plan will serve as the basis for determining the effectiveness of the Plan's implementation. It is the intent of the Plan that 20 percent of each need/assistance category be met on a yearly basis for five years, after which time the program will be reevaluated in its entirety and a new five-year Plan adopted.

A. SCAG Regional Housing Allocation Model

State law requires that the Housing Element of each jurisdiction include in its estimate of local housing needs that locality's "fair share" of regional housing needs. For Grand Terrace, regional housing needs are determined by the Southern California Association of Governments (SCAG).

Table 1 summarizes SCAG's assessment of present and future housing needs, based on its Regional Housing Allocation Model (RHAM). The 1983 housing need is estimated at 219 units, of which 110 are for very low income households (less than 80 percent of the San Bernardino County median income) and 109 are for low income households (80 to 100 percent of County median income).

SCAG also estimates a need for 22 additional units by 1988 to provide for growth, to replace units eliminated from the housing stock during this time period, and to furnish an inventory of vacant units (optimally, five percent of all units). It is important to understand that these allocations represent Grand Terrace's share of a regional model, and that SCAG did not use information about specific local land use conditions when the model was developed.

TABLE 1a

**REGIONAL HOUSING ALLOCATION MODEL
GRAND TERRACE - SAN BERNARDINO COUNTY**

CURRENT NEEDS AND GENERAL INFORMATION (1/1/83)

1. Total Households 3,268
2. Total Housing Units 3,554
3. Unoccupied Units 286
(Line 2 minus Line 1)
4. Households in Need - Lower Income Households Paying over 30 percent of Income for Housing (1980 Census)

TOTAL		219
Sub-Total	Very Low	110
	Low	109
Owners	Very Low	40
	Low	38
Renters	Very Low	69
	Low	71

Source: Southern California Association of Governments, April 1983; See Appendix A for complete data.

TABLE 1b
REGIONAL HOUSING ALLOCATION MODEL
GRAND TERRACE - SAN BERNARDINO COUNTY

FUTURE NEEDS (1/1/83 to 1/1/88)

1. 1988 Households (from SCAG 82) 3,600
2. 1983 Households 3,268
3. 5-Year Growth in Households 332
 (Line 1 minus Line 2)
4. 1988 Market Vacancy Goal 136
5. 1983 Market Vacancies 258
6. Vacancy Surplus or Deficit (122)
 (Line 4 minus Line 5)
7. 1983-1988 Expected Units 22
 Lost from Stock
8. Future Housing Unit Needs for
 All Income Groups, Adjusted to Avoid
 Impaction
 (Lines 3 plus 6 plus 7 equals 8)

Very Low (0%-50%)	29	12.51%
Low (50%-80%)	33	14.42%
Moderate (80%-120%)	40	17.30%
Upper (over 120%)	129	55.76%
Total	232	100.00%

Table 1b (cont.)

9. Special Income Group Need for High Cost Areas
(Number of Households with Annual Income over \$29,798, i.e., 120 percent of median for jurisdiction, but below \$25,302 needed to purchase median-priced home at \$73,800)
10. Tenure and Building Type Splits for 1983 Housing Stock

Owner	77.21%
Renter	22.79%
Single Family	71.08%
Multi-Family	28.92%

11. Framework Households Eligible for Assistance

Source: Southern California Association of Governments, April 1983; See Appendix A for complete data.

Of the 232 units projected to be needed by 1988, 210 are allocated to provide for new households projected to reside in the City. This takes into consideration the difference between the 1983 market vacancies (258 units) and the 1988 market vacancy goal (136 units) which results in an additional 122 units. Also included in the 232 units are 22 units expected to be lost from the housing stock between 1983 and 1988.

B. Housing Availability

1. Population Trends and Projections

Table 2 shows a summary of major population and housing factors from the 1980 census. The 1980 census put Grand Terrace's population at 8,498, an increase of 28.8 percent over the 1970 figure of 6,600.

The City contains approximately 228 acres of vacant potentially developable residentially designated properties. Allowable densities range from one dwelling unit per acre to 12 per acre. Maximum development of all of this property would yield an estimated additional 1,520 dwelling units and approximately 3,952 more persons. This would result in a total of 5,208 dwelling units within the City at maximum buildout. These figures correspond well with the SCAG 1982 and Regional Housing Allocation Model which, based on population data alone, estimated 5,107 dwelling units within the City by the year 2000. Additional information on population projections is presented in Section III.A. Constraints and Opportunities for Housing, Residential Development Potential, in this report.

Average household size was 3.14 in 1970, and had declined to 2.59 in 1980. Based on this population data and the availability of vacant land, the population of Grand Terrace is not expected to exceed 14,250 persons.

Table 3 details City-, County- and State- wide ethnicity data from the 1980 census. Grand Terrace varies from the County and State in having a proportionately larger white population, with fewer blacks, hispanics, and other ethnic groups.

Table 4 provides a breakdown by age for Grand Terrace, and includes comparative data from San Bernardino County and the State as a whole. This information shows the age distribution in Grand Terrace to be generally consistent with both the County and the State.

TABLE 2
SUMMARY OF POPULATION AND HOUSING FACTORS

	City of Grand Terrace	San Bernardino County	State of California
Number of Inhabitants	9,877 ¹	895,016	23,667,902
Number of Dwelling Units	3,688 ¹	370,155	9,279,036
Persons per Unit	2.6	2.4	2.3
Vacancy Rate	7.8%	8.3%	6.4%
Median Housing Price	\$73,800	\$63,400	\$84,700
Median Rent	\$254	\$223	\$253
Median Age	30.8	28.4	29.9
Ethnicity:			
% White	81.7%	73.0%	66.6%
% Black	1.9%	5.2%	7.5%
% Hispanic	12.4%	18.5%	19.2%
% Asian and Indian	3.1%	2.4%	5.7%
% Other	0.8%	0.8%	1.0%
Overcrowded Units:			
% 1.01 to 1.50 person per room	1.2%	3.7%	3.9%
% 1.51 or more persons per room	0.1%	1.9%	3.5%
% of Units Lacking Plumbing	0.1%	1.9%	1.2%
% of Households with Members 65+	14.6%	20.6%	20.2%
% of Households Headed by Women	10.2%	21.3%	20.4%

¹ Updated to 1987 Department of Finance figures.

Source: Southern California Association of Governments Processing of 1980 Census Tapes.

TABLE 3

**ETHNIC COMPOSITION OF GRAND TERRACE POPULATION: 1980
CITY OF GRAND TERRACE**

	City of Grand Terrace	San Bernardino County	State of California
Total Population	8,498	895,016	23,667,902
White Population			
Number of Residents	6,946	653,303	15,763,992
Percent of Total	81.7%	73.0%	66.6%
Hispanic Population			
Number of Residents	1,053	165,863	4,544,331
Percent of Total	12.4%	18.5%	19.2%
Black Population			
Number of Residents	161	46,615	1,783,810
Percent of Total	1.9%	5.2%	7.5%
Asian & American Indian Population			
Number of Residents	266	21,801	1,349,069
Percent of Total	3.1%	2.4%	5.7%
Other Population			
Number of Residents	72	7,434	226,700
Percent of Total	0.8%	0.8%	1.0%

Source: Southern California Association of Governments Processing of 1980 Census Tapes.

TABLE 4

**SIMPLIFIED AGE STRUCTURE OF GRAND TERRACE
CITY OF GRAND TERRACE**

	City of Grand Terrace	San Bernardino County	State of California
Total Population	8,498	895,016	23,667,902
Population Under 5 Years			
Number	605	76,296	1,708,400
Percent	7.1%	8.5%	7.2%
Population 5 - 17 Years			
Number	1,741	193,791	4,680,558
Percent	20.5%	21.7%	19.8%
Population 18 - 64 Years			
Number	5,404	535,873	14,864,694
Percent	63.6%	59.9%	62.8%
Population 65 and Over			
Number	748	89,056	2,414,250
Percent	8.8%	10.0%	10.2%
Population Median Age			
Years	30.8	28.4	29.9

Source: Southern California Association of Governments Processing of 1980 Census Tapes.

Since 1980 there has been an increase in the City's population of nearly 11 percent. This increase occurred because of the construction of over 250 new single-family housing units, as well as the occupation of a number of single-family units which had been completed in the late 1970's. For purposes of this analysis, certain demographic factors from the 1980 Census (e.g., elderly, handicapped, low-income households, and female-headed households) have been increased, based on the total population growth. This appears to be the most valid way of updating such data, short of preparing a new City census or making a comprehensive survey. Since most, if not all, of the new residents, moved into new single-family homes, the use of an 11 percent increase factor for various low-income population categories has probably inflated the actual number, rather than produce an underestimate.

2. Historic Residential Construction Trends

Table 5 shows residential construction activity in Grand Terrace for the period 1980-1986. During this period 460 units were constructed.

3. Need for Replacement Housing

Grand Terrace contains very few substandard units, since almost all houses are less than 20 years old. No residential demolition permits have been issued in the City during the past five years. Losses in the future are limited to those remaining single-family units on large lots, where the land has potential for subdivision development. However, these losses are not expected to exceed 22 units City-wide, based on SCAG projections. Even this figure may be somewhat inflated since it is based solely on demographics.

4. Vacancy Rates

Table 6 shows 1980 census information about vacancy in Grand Terrace. These rates tend to be higher than the five percent vacancy rate considered desirable for adequate turnover of dwellings because of adverse market conditions in recent years. There apparently has been little change in the last three years.

TABLE 5
RESIDENTIAL BUILDING PERMITS
1981-1986

Year	Dwelling Units
1981	81
1982	112
1983	50
1984	60
1985	63
1986	40
TOTAL	406

Source: City of Grand Terrace, April 1983.

TABLE 6
CENSUS DATA ON VACANT UNITS
CITY OF GRAND TERRACE

Vacant Dwelling Unit Type	City of Grand Terrace	San Bernardino County	State of California
Total Year-Round Units	3,278	366,136	9,220,421
All Vacant Units			
Number of Units	256	30,368	590,555 ¹
Vacancy Rate	7.8%	8.3%	6.4%
Vacant Units for Sale			
Number of Units	175	11,207	115,650
For Sale Vacancy Rate	5.3%	3.1%	2.3%
Vacant Units of Rent			
Number of Units	32	9,933	203,619
For Rent Vacancy Rate	1.0%	2.7%	5.1%

¹ Includes boarded-up units and units held for occasional use.

Source: Southern California Association of Governments Processing of 1980 Census Tapes.

A large portion of the high City and County vacancy rate can be attributed to the extensive amount of building activity between 1975 and 1980.

The SCAG reported 1983 market vacancy rate for Grand Terrace was 7.93 for owner-occupied units, 5.28 for renter-occupied units, resulting in an overall rate of 7.36.

C. Housing Affordability

1. Household Income

Household income, as a measure of affordability and therefore demand for housing, has traditionally been considered a major factor in the determination of market potential for development of housing in a given area. However, under current economic conditions, the traditional relationship between income and affordable housing purchase price no longer necessarily holds. In addition to trends toward higher percentages of available income being committed to housing costs, the following factors are increasingly significant:

- Equity transfer from existing housing providing higher down payments and consequently lower mortgages;
- Financial assistance from a buyer's family and/or other equity-lowering mortgage requirements; and
- Multiple family purchases under a "shared household" concept, reducing individual housing costs and the income needed by an individual to qualify for a loan.

The above conditions have created a situation wherein prices of sale units are frequently considerably in excess of indicated "affordable" levels, based on traditional income approaches.

Information about Grand Terrace's income distribution is presented in Table 1, line 4, on Table 7, and in Appendix A. In 1980, 2,297 (75.7 percent) of Grand Terrace's households were at the County median income or above; 631 (20.8 percent) are very low income households (less than 80 percent of the County median).¹ The difference between the City's income distribution and the regional income distribution forms the basis for the City's "fair share" housing allocation from SCAG.

¹ \$13,970 is 80 percent of the County median income as reported in the 1980 census.

TABLE 7
HOUSEHOLD INCOME IN GRAND TERRACE
1980 CENSUS DATA

Income	No. of Households	% of Total
Less than \$ 5,000	158	5%
\$ 5,000 - \$10,000	239	8%
\$10,000 - \$20,000	674	22%
\$20,000 - \$30,000	933	31%
\$30,000 - \$40,000	498	16%
\$40,000 - \$50,000	320	11%
\$50,000 - \$75,000	154	5%
Over \$75,000	57	2%
TOTAL	3,033	100%

2. 1983 Housing Costs

Grand Terrace exhibits a preponderance of single-family detached units, with fewer condominiums and apartments. The City has a number of mobile homes as well. Because of the narrow spectrum of housing unit types, housing costs are similarly concentrated.

Prices for single-family housing in Grand Terrace start at \$70,000 for a small, 1,000 to 1,200 square foot house, to about \$350- to \$400,000 for a larger custom house. The majority of housing in the City is currently in the \$80- to \$100,000 range. The 1980 census states the median housing value at \$73,800.

Although apartments are few in number, their prices are more moderate than single-family units. Rents range from \$200 to \$500 per month for two-bedroom units, with average rents of about \$300. The 1980 census reports the median rent at \$254.

The lack of larger rental units, coupled with the high cost of single-family homes, suggest that larger families have difficulty finding affordable housing in Grand Terrace.

The cost in the Fall of 1983 of vacant residentially designated property in Grand Terrace ranged from approximately \$2.00 to \$2.25 per square foot for low-density designated property to \$3.00 to \$3.25 per square foot for medium-density designated property.

3. Housing Costs: 1980 Census

Table 8 illustrates housing costs as documented by the 1980 census. Census data confirms the concentration of housing costs in a narrow range, as shown in Table 7. Table 8 also shows the degree of elevation of Grand Terrace housing costs in the \$50,000 to \$100,000 range over those in the County and State. It also shows that proportionately fewer units are priced less than \$50,000.

The distribution of rents was similar to that for owner-occupied units; with a significantly lower percentage of rents less than \$200 per month than either the County or State.

TABLE 8

**CENSUS DATA HOUSING COSTS
CITY OF GRAND TERRACE**

Housing Cost Factor	City of Grand Terrace	San Bernardino County	State of California
Owner Occupied Units			
Number of Units	2,457	213,783	3,837,173
Percent of All Occupied Units	78.6%	68.3%	44.5%
Median Value	\$73,800	\$63,400	\$84,700
Percent of Units by Price:			
Less than \$50,000	6.2%	30.6%	15.7%
\$ 50,000 - \$ 79,999	55.1%	43.3%	29.8%
\$ 80,000 - \$ 99,999	21.9%	13.8%	19.0%
\$100,000 - \$149,999	10.8%	9.0%	21.0%
\$150,000 - \$199,999	3.0%	2.0%	7.3%
\$200,000 and Above	3.0%	1.2%	7.2%
Renter Occupied Units			
Number of Units	664	90,324	3,595,913
Percent of All Occupied Units	21.3%	29.7%	48.4%
Median Rent	\$254	\$223	\$253
Percent of Units by Rent:			
Less than \$200	16.9%	40.2%	30.5%
\$200 - \$299	54.6%	39.2%	36.1%
\$300 - \$399	14.2%	14.8%	20.5%
\$400 - \$499	11.1%	4.6%	7.9%
\$500 and Above	3.2%	1.2%	5.0%

Source: Southern California Association of Governments Processing of 1980 Census Tapes.

D. Housing Condition

1. Substandardness

Most of the housing stock in Grand Terrace is less than 20 years old. As a result, little deterioration in housing condition is evident from exterior inspection. (An exterior housing condition survey conducted several years ago was field checked for preparation of this Housing Element.) Of the 3,620 dwelling units in the City (May, 1983), only eight (0.2 percent of all units) were found to be dilapidated (showing evidence of major structural deficiencies, such as sagging roofline, sagging porch, or roof damage sufficient to permit water damage to structural elements, etc.). Only three (0.08 percent of all units) were found to be deteriorated (showing significant evidence of deferred maintenance sufficient to require correction in the near future to avoid major structural damage). The majority of substandard units predate the major period of residential construction in the City, and are generally the residences remaining from the time when Grand Terrace was primarily agricultural. Several are located on large lots, which could potentially be developed as small subdivisions.

2. Overcrowding

Overcrowded conditions affect those households having more than one person per room. The 1980 census data suggests that there is little problem with overcrowding of either owner-occupied or renter-occupied units in Grand Terrace. Table 9 shows information about overcrowding for the City. Approximately 1.5 percent of all units in the City were identified as overcrowded, as compared with 5.6 percent in the County and 7.4 percent in the State.

E. Special Housing Needs

1. The Elderly/Handicapped

No information on the number of handicapped individuals living in Grand Terrace is available. A program to identify the number of handicapped individuals needing assistance should be undertaken in conjunction with the study of elderly social security dependent households.

The 1980 census identified a total of 442 households (14.6 percent) having members aged 65 or older. There are also 472 households which listed social security as the principal source of income. From this data it can be inferred that there are likely to be a number of elderly

TABLE 9

**OVERCROWDING INFORMATION: 1980 Census
CITY OF GRAND TERRACE**

Overcrowding Factor	City of Grand Terrace	San Bernardino County	State of California
Owner Occupied Units			
1.01 to 1.5 persons per room	27	6,190	140,061
1.51 or more persons per room	2	2,422	75,314
Renter Occupied Units			
1.01 to 1.5 persons per room	9	5,346	195,568
1.51 or more persons per room	2	3,517	227,390
All Units			
Percent of units with 1.01 to 1.51 persons per room	1.4%	3.7%	3.9%
Percent of units with 1.51 or more persons per room	0.08%	1.9%	3.5%

Source: Southern California Association of Governments Processing of 1980 Census Tapes.

persons needing some form of housing assistance. Assuming an 11 percent increase since 1980 and that 50 percent of the households with members over 65 are totally dependent on social security, there would be approximately 245 households headed by persons 65 years old or over in need of some type of assistance. If this estimate is true, it represents by far the largest single group needing assistance in the community. This figure should be verified, and a program to do so has been outlined in the Action policies of this Plan.

Housing needs of the elderly usually revolve around issues of affordable, in that most elderly are on a fixed income while housing and other costs continue to rise.

2. Large Families

The 1980 census identifies a total of 354 large family households (11.7 percent of all households) as needing assistance. A large family household is defined as one with five or more members. Needs of large families generally center on overcrowding and affordability.

3. Households Headed by Women

The 1980 census identifies 228 households of two or more persons headed by women. This represents 7.5 percent of the total households in Grand Terrace. Data on the number of these households which are lower income and require assistance was not available. However, it is not uncommon for up to 20 percent of such households to need some form of housing assistance. If this figure is applicable to Grand Terrace, then approximately 46 households headed by women are in need of assistance.

III CONSTRAINTS ON AND OPPORTUNITIES FOR HOUSING

This section of the Housing Element discusses limitations on the production of housing and on its affordability, opportunities for new housing development within the community, and opportunities for energy conservation with respect to residential development.

A. Residential Development Potential

1. Location

Adequate sites for low- and moderate-income housing projects can be found in essentially all of the areas designated for multi-family development as well as in single-family designated areas west of Barton Road and Mt. Vernon Avenue. Nearly all of the multi-family designated vacant property, i.e., that area north of Barton Road and east of the 91 Freeway (see Figure 1), is within Redevelopment Study Area C as defined in the City's Redevelopment Implementation Strategy Report, November, 1983. The remaining two large tracts of vacant single-family designated property in the eastern portion of the City are in hillside areas which severely constrain development densities. It is doubtful if economically viable low- and moderate-income units could be developed in these areas. At the present time, there are approximately 9.7 acres of medium-density designated property and 212 acres of low-density designated properties which could be developed with low- or moderate-income units.

2. Development Density

Table 10 presents a summary of this vacant property by General Plan Land Use Policy Map category and provides an estimate of the total number of additional dwelling units and the anticipated population increase. It is important to note that the dwelling unit and population projection figures on Table 10 represent total buildout of all available land. This is anticipated to occur sometime after the year 2000. The current SCAG projections (i.e., SCAG 82 and RHAM Housing Allocation for Grand Terrace 4/83), are based entirely on population and housing statistics and do not consider land availability. The SCAG projected population of 12,210 and a total of 5,110 housing units by the year 2000 corresponds well with the estimates on Table 10.

TABLE 10

VACANT RESIDENTIAL LAND AND
ESTIMATED ADDITIONAL DWELLING UNITS
AND POPULATION AT TOTAL DEVELOPMENT

	Vacant Acreage	Maximum Units Per Acre	Maximum Units	Estimated Population at Buildout
Low Density	212	5	1,060	2,756
Medium Density	9.7	12	116	302
Previously Approved Projects	--	--	366	--
Total Additional	--	--	1,520	3,952
Current (1987)	--	--	3,688	9,877
Total Buildout	--	--	5,208	13,829

Further refinement of population and growth statistics which are truly meaningful is extremely difficult. Although complex modeling scenarios can be used to develop growth projections, many of the principal factors affecting growth are conditioned by national and international conditions which are nearly impossible to predict. This is also true of the SCAG projections which use regional trends from the last several years as the basis for city-specific population and housing predictions.

3. Infrastructure

All vacant residentially designated land within the City is in close proximity to the infrastructure systems (i.e., utilities and streets necessary to provide service). While construction of local interior street and minor utility extensions would be required in some cases, the overall extent would not be great; the location of streets and utility lines is shown in Sections E and F of the Master Environmental Assessment included with this report. No street extensions or major service system improvements would be necessary for development of multi-family designated areas directly adjacent to Mt. Vernon Avenue or single-family designated areas in the western portion of the city west of the AT&SF railroad tracks, see Figure 1. Service systems are adequate to provide for the higher densities expected to be associated with low- and moderate-income developments.

B. Constraints upon Housing Production and Affordability

There are a number of factors impacting the housing market which significantly constrain both the production as well as the affordability of new units. Such factors are listed below:

1. Governmental Constraints

Actual and potential governmental constraints on housing can be summarized as follows:

- The City General Plan and Zoning Ordinance point out that Grand Terrace is predominately a residential community; primarily containing single-family units. Low-Density Residential is limited to a maximum of four dwellings per gross acre. Medium-Density Residential is developable at densities of up to 12 dwelling units per gross acre.* The emphasis on single-family units affects both housing choice and

* R-2 uses are also included under the medium-density General Plan category, however they are not important in relation to the discussion of housing policy for new construction since the only R-2 zoning in the City is in a 12-acre fully developed area north of Barton Road.

housing cost. Single-family units are more expensive, since the developer must recoup the cost of the land in a smaller number of units. In addition, future multi-family development, expected to consist primarily of attached units and condominiums, tends to be priced above the affordability level of most low and moderate-income families. Many of the more affordable housing choices (which represent an increasing share of the housing market in other Cities) are excluded.

- With the revenue limitations placed on local government as a result of Proposition 13 and Proposition 4, the development process is no longer subsidized by the City and the fee structures have been increased.

However, it is important to note that development fees in Grand Terrace still are quite low when compared with surrounding areas. A listing of all fees is included in Appendix B. Development fees are not seen as a constraint to low- or moderate-income projects, which could be accommodated without zone changes or conditional use permits. Specific Plan requirements are designed to streamline the approval process for the City, which in turn will ultimately save developers money. A description of the Specific Plan requirements and process is found in the Community Development Elements of the General Plan.

- Current Federal and State tax laws provide little encouragement for increased investment in rental housing.
- No major off-site improvements are expected to be associated with development of vacant residential sites outside of hillside areas. A review of on-site requirements (i.e., sidewalks, landscaping, setbacks, etc.) for residential zone categories shows them to be no more restrictive than in other nearby communities. There does not appear to be a basis for reducing standards to provide incentives for low and moderate-income development. Current standards are the minimum necessary to insure adequate housing developments.

2. Non-Governmental Constraints

Constraints resulting from operations of the marketplace are summarized below:

- High construction costs and high costs of borrowing inflate housing prices.
- High costs of borrowing money tend to result in the deferment of property maintenance and housing rehabilitation efforts.
- The comparative financial advantages accruing to sales housing development have lead to sharply reduced investment in new rental housing.

C. Opportunities for Energy Conservation

Conservation of natural energy resources is of high priority, both nationally and locally. Measures which result in the conservation of energy can be divided into three major categories: 1) incorporation of energy-conserving features in new construction; 2) installation of energy-conserving features into existing structures; and 3) the practice of energy-conserving measures by residents. Most of the features which can be incorporated into new construction also can be installed in existing units. A suggested list of such features is included in Table 11. Potential conservation measures which can be practiced by residents are listed in Table 12.

TABLE 11

ENERGY CONSERVATION FEATURES
FOR NEW CONSTRUCTION AND EXISTING UNITS

A. Energy-efficient Equipment

1. Energy-efficient gas ranges with pilotless ignitions.
2. Energy-efficient gas built-in surface units with pilotless ignitions.
3. Energy-efficient gas built-in oven units with pilotless ignitions.
4. Energy-efficient gas water heaters.
5. Energy-efficient gas forced air furnaces with pilotless ignitions.
6. Energy-efficient gas wall furnaces with automatic thermostats.
7. Energy-efficient gas clothes dryers with pilotless ignitions (per dwelling unit).
8. Gas outlets for energy-efficient gas clothes dryers (single-family and condominiums).

B. Energy-efficient Support Measures

1. Gas heating thermostats with setback capability.
2. Clogged-filter indicators for gas heating systems.
3. Fireplace dampers with exposed handles.
4. Heat exchangers in fireplace or free-standing solid fuel units.
5. Humidifiers added to gas heating system.
6. Flue dampers as integral part of forced air unit heating systems.

C. Energy-efficient Construction

1. Double glazed windows and doors.
2. Glass area less than 12 percent of heated space.

Table 11 (Cont.)

3. Foam-filled (or equivalent) insulated exterior doors (per door).
4. Insulation in attic increased to R-22 or R-30.
5. Insulation in walls increased to R-19.
6. Slab perimeter insulation R-7 or greater.
7. Hot water pipe insulation of one-half inch or more in unheated areas.
8. R-7 or greater insulation installed under wood floors.

D. Energy-efficient Solar/Gas Installations

1. Energy-efficient Solar/Gas water heating.
2. Energy-efficient Solar/Gas space heating.
3. Energy-efficient Solar/Gas pool heating (per rental or condo).
4. Energy-efficient Solar/Gas pool heating (single-dwelling).

E. Energy-efficient Electrical Equipment

1. Air economizers in conjunction with cooling system.
2. Dishwashers with power saving drying cycles.
3. Air conditioning (central) or room units with Energy Efficiency Rating of 9 or more.
4. Fluorescent lighting fixtures in kitchen area.
5. Fluorescent lighting fixtures in all baths.
6. Fluorescent lighting fixtures in recreation room.

Source: Southern California Gas Company, June 1981.

TABLE 12

ENERGY CONSERVATION MEASURES FOR RESIDENTS

A. Heating

1. Keep room temperature at 65 degrees or lower. Turn heating control down at night or when away from home. Install a thermostat with a night setback features which does this automatically.
2. Draw draperies at night to limit heat loss, open them on sunny days to let the heat in.
3. Close damper when fireplace is not in use.
4. Check the furnace filter monthly, and replace it when dirty. To check filter, hold it to the light; if light does not pass through readily, replace filter. Cleaning is not recommended (unless equipped with a permanent filter).
5. Turn off furnace pilot at end of heating season.
6. Weatherstrip windows and doors.
7. Caulk cracks around windows and doors.

B. Water Heating

1. Take fast showers.
2. Repair leaky faucets.
3. Install water-saving showerheads which restrict water flow.
4. Operate dishwashers only for full loads.
5. Set water heater thermostat below "normal". Turn to "pilot" position when away for extended periods of time (one week or longer).
6. Use cold water for operating food waste disposer and for pre-rinsing dishes.
7. When handwashing dishes, avoid rinsing under continuous hot running water.
8. Insulate water heater with an insulation blanket.

Table 12 (Cont.)

C. Laundry

1. Wash and dry full loads of clothes, or adjust water level for the size of the load.
2. Wash clothes in warm or cold water.
3. Don't over-dry clothes, follow manufacturer's instructions for drying time.

D. Cooking

1. Reduce burner flame to simmer after cooking starts.
2. Cook by time and temperature, avoid opening oven door while food is cooking.
3. Use one-place cooking when possible, prepare meals using only the oven, broiler, or top burner.
4. Check to make sure all burners are off when not in use.

Source: Southern California Gas Company, June 1981.

There are a variety of programs available to builders and property owners dealing with energy conservation. Such programs are found at federal, state, and local levels, and include a wide range of strategies. To attempt a comprehensive list of such programs is beyond the scope of this document.

Some of the most accessible programs for both builders and property owners are being undertaken by the larger utility companies, specifically the Southern California Edison Company and the Southern California Gas Company. The Gas Company offers awards to builders who construct projects which meet specific energy efficiency standards. In addition, both the Gas Company and the Edison Company provide assistance to consumers. These activities include special consumer information sections which disseminate conservation information through community organizations and special programs, billing inserts, and programs to local schools.

D. Program Funding

The responsibility for implementation of the Grand Terrace Housing Program will be principally with the City's Redevelopment Agency. There are several reasons for this, including the small size of the community, the fact that essentially all of the vacant residentially designated properties in the City are within Redevelopment Project areas, and nearly all of the funding for the Housing Program will be derived from Redevelopment Tax Increment funds.

The City recently completed a Redevelopment Implementation Strategy report which lists the sources and magnitude of funds to be used for the Housing Program over the next five years; (see City of Grand Terrace, Community Redevelopment Agency, Redevelopment Implementation Strategy, by Municipal Services, Inc., November, 1983, pages 29-31). Based on the projected tax increment revenues, the City is expected to accumulate and spend a total of \$379,000 over the next five years on housing.

An additional source of funding is Community Development Block Grants. The City applies for these funds through the County of San Bernardino, and receives an annual allocation of approximately \$25,000.

A portion of the City's General Funds will also be used to help implement the Housing Program. This will consist primarily of administrative costs to revise current City Codes, in particular the Zoning Ordinance, (see Specific Housing Program Actions, A.1.a. through A.1.e.). This will allow for a streamlining of

the processing for low- and moderate income development projects. The total yearly allocation of General Fund monies in direct support of Housing Program implementation actions is estimated at approximately \$3,500.

E. Public Participation

Active public participation is a key component in the development and implementation of the City's Housing Assistance Plan. Development of the Plan was undertaken by a citizens' committee with meetings noticed in the local newspaper and open to all citizens. The legal requirements for meetings, notification, and formal public hearings far exceeded those required by law. Success in implementing many of the Housing Program Actions is dependent on a high level of visibility. Specific programs will include publicity in local newspapers, review at public meetings as well as surveys and special notification through utility bill inserts, phone contacts, and special mailings.

IV HOUSING GOALS, OBJECTIVES AND POLICIES

This section of the Housing Element presents Grand Terrace's goals, objectives and policies relative to the development, improvement and maintenance of housing within the community.

Housing goals are statements of the aspirations of the community, and represent the ends to which housing efforts and resources are directed. Statements of objectives are more specific and provide guidelines for actions and later evaluation. Statements of policy are more specific still, and provide well-defined guidelines for decision-making. Program actions are intended to carry out the goals, objectives and policies stated herein, and are presented in the next section of the Housing Element.

A. Housing Availability and Production

Goal No. 1: Promote and encourage a supply of housing suitable to the needs of and sufficient in number to serve existing and projected residents of Grand Terrace.

- Objective 1.1: Promote and encourage construction of new housing units on suitable vacant and under-utilized property at an average rate of 80 units per year, or until such time as all vacant or under-utilized land has been developed. The total number of units should be carefully monitored to help prevent vacancy rates from rising above current levels.
- Policy 1.1.1: Promote and encourage development of housing which varies by type, design, form of ownership and size.
- Policy 1.1.2: Maximize use of remaining vacant land suitable for residential development.
- Policy 1.1.3: Promote and encourage in-fill housing development and more intensive use of underutilized land for residential construction.
- Policy 1.1.4: Promote and encourage use of innovative construction methods, design standards and energy conservation techniques in new housing development.

B. Housing Affordability

Goal No. 2: Promote and encourage housing opportunities for all economic segments of the community, regardless of age, sex, ethnic background, physical condition, or family size.

- Objective 2.1: Promote construction or availability of 45 housing units per year over the next five years affordable to those with incomes up to 130 percent of County median income.
 - Policy 2.1.1: Pursue available housing assistance programs funded by the state and federal governments.
 - Policy 2.1.2: Continue a policy of expeditious processing of residential development proposals and permits.
- Objective 2.2: Promote the affordability of existing housing units for low and moderate-income households by capturing Federal housing assistance subsidies for the benefit of eligible City residents.
 - Policy 2.2.1: Actively assist the San Bernardino County Housing Authority in placing Section 8 certificates in the community.

C. Housing Condition

Goal No. 3: Promote and encourage the rehabilitation of deteriorated dwelling units and the conservation of the currently-sound housing stock.

- Objective 3.1: Promote the rehabilitation of deteriorated dwellings.
 - Policy 3.1.1: Pursue housing rehabilitation programs offered by the State and Federal governments.
 - Policy 3.1.2: Pursue cooperation with County agencies to provide below-market rate rehabilitation loans for both owner-occupied and rental housing.
 - Policy 3.1.3: Promote utilization of rehabilitation assistance programs to alleviate overcrowded conditions.

- Objective 3.2: Promote maintenance of currently sound housing.
- Policy 3.2.1: Utilize public information and assistance programs to encourage repair before major damage occurs.
- Policy 3.2.2: Monitor housing conditions in Grand Terrace annually. If evidence of deferred maintenance increases, consider implementation of occupancy inspection program.

V THE HOUSING PROGRAM

This Housing Program sets forth a five-year schedule of actions for Grand Terrace to implement housing policies and to achieve the City's housing goals and objectives. It is recognized that Federal housing programs, in particular, will be changing during the period of this Housing Element. As such changes occur, the Housing Program will be modified to reflect then-current available resources. A summary of quantifiable housing goals is presented at the conclusion of this section as Table 13.

A. Actions in Support of Housing Availability and Production

Action 1.a: Using General Plan policies; as well as zoning and subdivision provisions, encourage the development of Planned Residential Developments, townhouses, and condominiums, by expediting the processing of city conditions and approvals.

<u>Objective:</u>	Expedite processing of all relevant projects.
<u>Responsibility:</u>	City of Grand Terrace, Engineering Department.
<u>Funding:</u>	\$1,000 per year, estimated.
<u>Funding Source:</u>	City general fund.
<u>Timetable:</u>	Continuous, 1984-1988.

Action 1.b: Through the subdivision and zoning ordinances, the division of large lots into smaller parcels and encourage more intensive use of underutilized land. Lot splits for projects with 20 percent low- or moderate-income should be processed at City expense.

<u>Objective:</u>	Consider all potential residential development in light of this action.
<u>Responsibility:</u>	City of Grand Terrace, Engineering Department.
<u>Funding:</u>	\$1,500 per year, estimated.
<u>Funding Source:</u>	City general fund.
<u>Timetable:</u>	1984-1988.

Action 1.c: Through subdivision and zoning ordinances, and through the permit process, encourage use of innovative construction techniques, design standards, and energy conservation methods in new housing development.

<u>Objective:</u>	Review all proposed residential projects in relation to this action and implement suggested measures for compliance with the City's design review process.
-------------------	--

<u>Responsibility:</u>	City of Grand Terrace, Engineering Department.
<u>Funding:</u>	Minimal.
<u>Funding Source:</u>	City general fund.
<u>Timetable:</u>	Continuous, 1984-1988.

Action 1.d: Through the existing zoning ordinance and in accordance with the adopted Land Use Element of the General Plan, permit construction of a second dwelling unit on R-1 lots.

<u>Objective:</u>	Allow for implementation of this action in all instances where it is applicable.
<u>Responsibility:</u>	City of Grand Terrace, Engineering Department.
<u>Funding:</u>	Minimal.
<u>Funding Source:</u>	City general fund.
<u>Timetable:</u>	Continuous, 1984-1988.

Action 1.e: Through existing subdivision and zoning ordinances, encourage development of variation in housing type, ownership status, design and size, in accordance with documented housing needs of the community. The Zoning Ordinance shall be amended to allow for the construction on suitable undeveloped sites of any residential development having ten percent or more low-income units at a density of up to 20 dwelling units per acre in the R-2 and R-3 zoned areas.

<u>Objective:</u>	Amend the current zoning ordinance to conform with this action in 1984.
<u>Responsibility:</u>	City of Grand Terrace, Engineering Department.
<u>Funding:</u>	\$1,000 per year, estimated.
<u>Funding Source:</u>	City general fund.
<u>Timetable:</u>	Continuous, 1984-1988.

Action 1.f: Establish an overlay zone for mobile home parks designed to preserve the present stock of mobile homes and protect mobile home tenants; as well as develop an implementation program for mobile home preservation modeled after the San Diego County, City of San Marcos, and City of Santee programs.

<u>Objective:</u>	Institute zoning amendments to comply with this action in 1984.
<u>Responsibility:</u>	City of Grand Terrace, Engineering Department.
<u>Funding:</u>	\$2,000 per year.
<u>Funding Source:</u>	Community Development Block Grant.
<u>Timetable:</u>	Annually, 1984-1988.

Action 1.h: The Grand Terrace Redevelopment Agency, in conjunction with the City Engineering Department, will prepare an annual report describing the results of the past year's progress in meeting the housing needs of the community, i.e., low-income/moderate-income household needs, small/ large family needs, renter/owner needs. Specific quantifiable data is to be provided showing the proportion of units and households assisted and the maximum number of units constructed, rehabilitated, and conserved, in relation to the needs defined in the Housing Assistance Plan. Survey data collected as part of the implementation of Action 1.g. will be included, and the need requirements adjusted as appropriate to meet the actual identified needs rather than just estimated needs.

<u>Objective:</u>	Preparation of specified report on an annual basis.
<u>Responsibility:</u>	City of Grand Terrace Redevelopment Agency and Engineering Department.
<u>Funding:</u>	\$2,500 per year.
<u>Funding Source:</u>	Community Development Block Grant.
<u>Timetable:</u>	Annually, 1984-1988.

B. Actions in Support of Housing Affordability

Action 2.a: Develop a public information program designed to acquaint all economic segments of the community with available housing finance, rental assistance programs, and fair housing programs.

<u>Objective:</u>	Implement information program in 1984 with updating no less than once a year.
<u>Responsibility:</u>	City of Grand Terrace, Redevelopment Agency.
<u>Funding:</u>	\$5,000 yearly.
<u>Funding Source:</u>	Redevelopment funds.
<u>Timetable:</u>	At least annually, 1984-1988.

Action 2.b: Specifically encourage development of assisted rental housing for the elderly and handicapped throughout the City.

<u>Objective:</u>	Actively support new housing for the elderly and handicapped.
<u>Responsibility:</u>	City of Grand Terrace, Engineering Department.
<u>Funding:</u>	Variable with each project, estimated at \$2,500 per year.
<u>Funding Source:</u>	Redevelopment funds, Community Development Block Grant.
<u>Timetable:</u>	Continuous, 1984-1988.

Action 2.c: Federally-subsidized rental housing developments are not always financially feasible at current mortgage interest rates. In such situations, use the existing authorities of the Redevelopment Agency to issue tax-exempt mortgage revenue bonds (SB99) to provide below-market rate long-term financing for such projects. These funds should be used exclusively for low-income households.

<u>Objective:</u>	Assist in the development of an average of ten such units per year.
<u>Responsibility:</u>	City of Grand Terrace, Redevelopment Agency.
<u>Funding:</u>	Variable with size of bond, estimated at \$30,000 per year.
<u>Funding Source:</u>	Bond proceeds.
<u>Timetable:</u>	As needed, 1984-1988.

Action 2.d: Non-assisted rental and sales housing developments directed to the needs of moderate-income households also face feasibility constraints in times of high interest rates. Where necessary, utilize the bonding authorities, if available, of the Redevelopment Agency and of the City (AB1355) to issue tax-exempt mortgage revenue bonds to provide below market interest rate financing available for such projects.

<u>Objective:</u>	Assist in the development of an average of eight such units per year.
<u>Responsibility:</u>	City of Grand Terrace, Redevelopment Agency, or City Manager's Office.
<u>Funding:</u>	Variable with size of bond, estimated at \$15,000 per year.
<u>Funding Source:</u>	Bond proceeds.
<u>Timetable:</u>	As needed, 1984-1988.

Action 2.e: Continue to participate with the San Bernardino County Housing Authority in the implementation of the Section 8 Housing Assistance Payments Programs.

<u>Objective:</u>	Maintain participation at present levels.
<u>Responsibility:</u>	City of Grand Terrace, City Manager's Office.
<u>Funding:</u>	Minimal, estimated at \$3,000 per year.
<u>Funding Source:</u>	Federal funds through Housing Authority and/or Community Development Block Grant.
<u>Timetable:</u>	Continuous, 1984-1988.

Action 2.f: Initiate public information program designed to acquaint all economic segments of the community with such advantageous housing finance and rental assistance programs as are available from time to time.

<u>Objective:</u>	Acquaint all potentially affected members of the community with any special programs.
<u>Responsibility:</u>	City of Grand Terrace, Engineering Department.
<u>Funding:</u>	\$3,000 per year.
<u>Funding Source:</u>	Community Development Block Grant.
<u>Timetable:</u>	Continuous, 1984, 1988.

C. Actions in Support of Maintaining and Improving Housing Condition

Action 3.a: Initiate a program of public information and technical assistance designed to encourage continued maintenance of currently sound housing.

<u>Objective:</u>	Contact <u>all</u> households within the City on an annual basis in respect to this action program.
<u>Responsibility:</u>	City of Grand Terrace, Engineering Department.
<u>Funding:</u>	\$2,000 per year.
<u>Funding Source:</u>	Community Development Block Grant.
<u>Timetable:</u>	Annually, 1984-1988.

Action 3.b: Use Redevelopment funds in coordination with San Bernardino County programs for housing rehabilitation purposes.

<u>Objective:</u>	Assist in the rehabilitation of at least five units per year.
<u>Responsibility:</u>	City of Grand Terrace, Engineering Department.
<u>Funding:</u>	\$25,000 per year.
<u>Funding Source:</u>	Redevelopment funds.
<u>Timetable:</u>	Continuous, 1984-1988.

Action 3.c: Develop a program to help alleviate overcrowded conditions by assigning funding priority to rehabilitation cases in which bedroom additions are planned.

<u>Objective:</u>	Construct or provide for at least ten overcrowded units per year for five years.
<u>Responsibility:</u>	City of Grand Terrace, Engineering Department.

Funding: Minimal.
Funding Source: Individual rehabilitation program used through redevelopment funding.
Timetable: Continuous, 1984-1988.

Action 3.d: Promote housing accessibility for handicapped and disabled persons by assigning funding priority to housing rehabilitation cases in which accessibility improvements are planned.

Objective: Construct or provide for five households with handicapped or disabled persons per year for five years, subject to revision when more substantive data on needs is available.
Responsibility: City of Grand Terrace, Engineering Department.
Funding: Minimal.
Funding Source: Individual rehabilitation program used, through redevelopment funding.
Timetable: Continuous, 1984-1988.

TABLE 13

CITY OF GRAND TERRACE - HOUSING PROGRAM OBJECTIVES

Housing Goals for Low- Moderate-Income Units

Program Action	Rehabilitation of Existing Units		Construction of New Units		Loan Assistance per Household	
	Yearly	Total in 5 Years	Yearly	Total in 5 Years	Yearly	Total in 5 Years
Action 2.c: Below market long-term financing (SB99) exclusively for low-income households	--	--	--	--	10	50
Action 2.d: Tax exempt mortgage revenue bonds (AB 1355) for below market rate financing for moderate-income households	--	--	--	--	8	40
Action 3.b: Housing rehabilitation through use of Redevelopment Agency funds	5	25	--	--	--	--
Action 3.c: Assign funding priority to overcrowded households	5	25	5	25	--	--
Action 3.d: Assign funding priority to the handicapped and disabled	3	15	2	10	--	--
Total	13	65	7	35	18	90

GRAND TERRACE HOUSING ASSISTANCE PLAN

APPENDIX A

SCAG Census Data and
1983 Regional Housing Allocation Model (RHAM)
for Grand Terrace and San Bernardino County

April 18, 1983

MEMORANDUM

TO: The Executive Committee
FROM: Staff
SUBJECT: SCAG-82 Draft City Disaggregation

The attached city forecasts for the year 2000 are draft disaggregations of the SCAG-82 forecast. They are not being proposed for adoption. They are, however consistent with the city forecasts for the year 1988 that have been incorporate into the Regional Housing Allocation Model, which is being proposed for adoptio

*Note adoption of the Regional Housing Allocation Model on April 28, 1983.

DM:kkm
Encl:.

MASTER ENVIRONMENTAL ASSESSMENT

**MASTER ENVIRONMENTAL ASSESSMENT
(MEA)
ENVIRONMENTAL IMPACT REPORT
(EIR)**

**GENERAL PLAN
CITY OF GRAND TERRACE
CALIFORNIA**

January 1988

Prepared by:

**Willdan Associates
Engineers and Planners**

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PREFACE

The MEA/EIR was originally prepared by Beland/Associates in January 1984, to accompany a General Plan for the City of Grand Terrace concurrently prepared by the same firm. In 1987, the City retained Willdan Associates to update both the General Plan and MEA/EIR. Much of the material in this document is derived directly from the original work of Beland/Associates with necessary updating and revision of information by Willdan Associates to reflect the changes contained in the 1987 General Plan update.

EXECUTIVE SUMMARY

The MEA/EIR is both a description of existing conditions in the Grand Terrace Planning Area and an analysis of the effects of General Plan policies and land use recommendations. The MEA/EIR has been designed to be easily revised as General Plan amendments are proposed and as new base data becomes available.

I PLANNING AREA

The Grand Terrace General Plan Program deals specifically with the area within the City's corporate boundary, which is also the official City Sphere of Influence. All County "islands" contiguous with the City are in the City of Colton's Sphere of Influence. A map showing this area is included as Figure ES-1.

II ENVIRONMENTAL CONSTRAINTS

As part of the General Plan analysis, the environmental constraints for the City were evaluated and mapped. These are shown in Figure ES-2.

The major environmental constraints within the City are flood hazard, noise, utility transmission corridors, and areas of steep slopes.

Flood hazard impacts a small area within the Santa Ana River floodplain in the northwestern portion of the City. Potential flooding is also of concern in areas adjacent to steep hillsides, especially in the southeastern area of the City.

The principal noise sources within the study area are freeways and the railroad. A relatively small number of dwelling units are adversely impacted. The freeways and railroad also present a significant land use barrier between the eastern and western portions of the community.

There are several major utility corridors, specifically electrical transmission lines, the Gage Canal, and a California Aqueduct pipeline.

III ENVIRONMENTAL FACTORS MATRIX

The Environmental Factors Matrix (Table ES-1) indicates the relative importance of various aspects of the environment in and around Grand Terrace. The Matrix is intended for use by City staff in scoping the content of environmental impact reports on future development projects. The subject headings on the matrix have been adapted from the State of California Environmental Checklist; factors not pertinent to the City of Grand Terrace have been deleted.

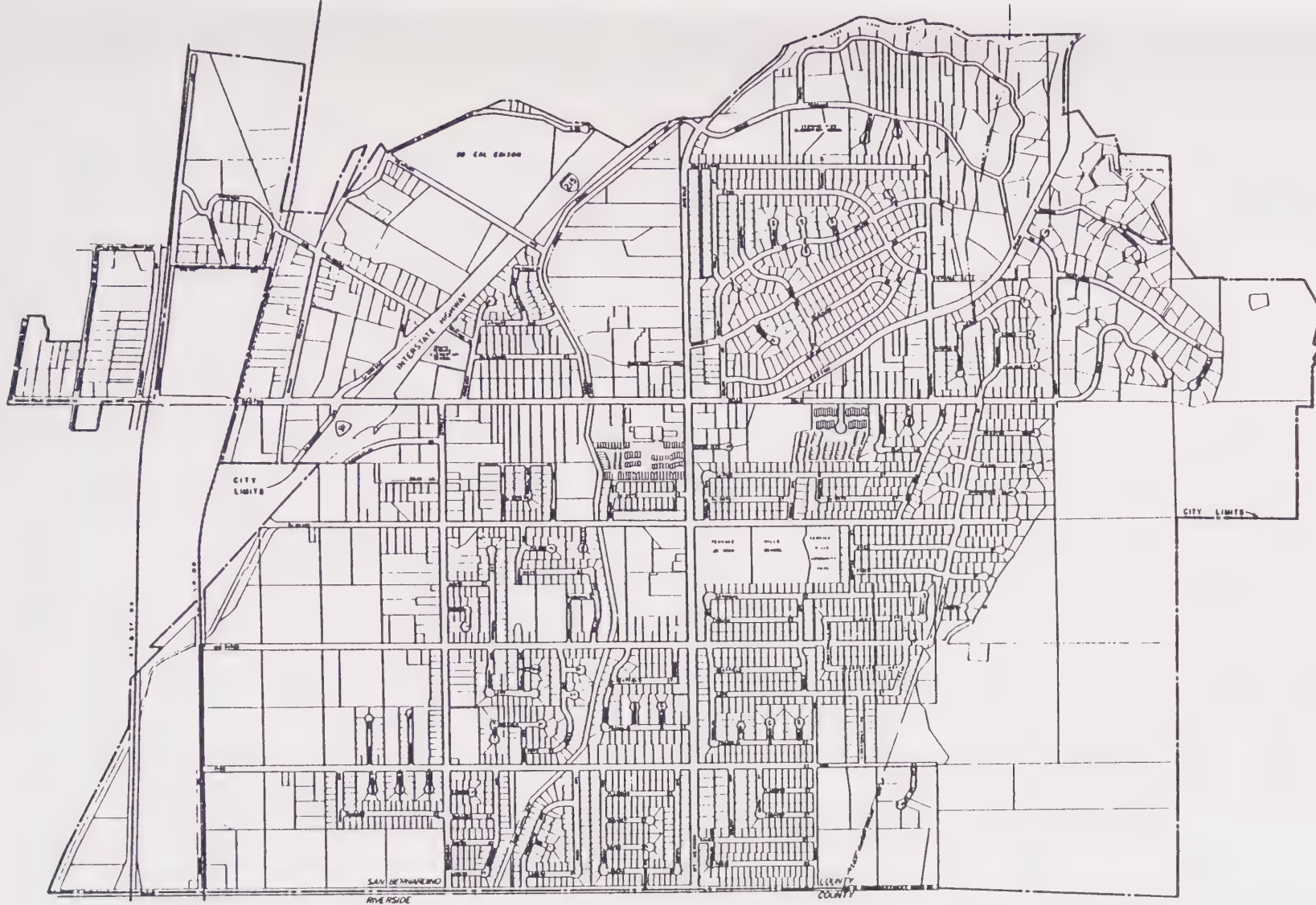


Figure ES - 1

Grand Terrace Plan Area

City of Grand Terrace

0 2000 4000 Feet



**TABLE ES-1
ENVIRONMENTAL FACTORS MATRIX***

ENVIRONMENTAL FACTORS		LAND USE POLICY MAP AREA						
		Open Space	Residential (Vacant)	Commercial (Vacant)	Industrial (Vacant)	Developed Areas	Community Wide	Region Wide
EARTH	Seismic Hazards	-	0	0	0	0	0	0
	Soil Conditions	X	X	0	0	-	0	0
	Topography	X	X	0	0	-	0	0
	Unique Features	-	-	-	-	-	-	-
	Water Erosion	X	X	-	-	-	X	X
	Geologic Hazards	X	0	0	-	-	-	0
AIR	Air Emissions/Quality	-	0	0	0	0	X	X
	Odors	-	0	-	0	-	-	-
	Climate	-	-	-	-	-	-	-
WATER	Surface Flow	X	X	0	0	0	0	0
	Absorption Rates	0	-	-	-	-	-	0
	Drainage Patterns	X	0	0	0	-	0	0
	Flood Water	X	X	-	-	0	0	0
	Surface Water (Lakes)	-	-	-	-	-	-	-
	Flow of Ground Water	-	-	-	-	-	0	0
	Ground Water Quality	-	-	-	-	-	X	X
	Water Quality	-	-	-	-	-	-	-

* Environmental Factors which will affect, or be affected by, current land uses or potential land use changes.

X = Major Effect

0 = Moderate or Potential Effect

- = Limited or Negligible Effect

Table ES-1 (Cont.)

ENVIRONMENTAL FACTORS		LAND USE POLICY MAP AREA						
		Open Space	Residential (Vacant)	Commercial (Vacant)	Industrial (Vacant)	Developed Areas	Community Wide	Region Wide
PLANTS & ANIMALS	Diversity of Species	0	-	-	-	-	-	0
	Unique/Rare Species	-	-	-	-	-	-	0
	New Species	0	-	-	-	-	-	-
	Habitat Areas/Agri.	0	X	-	-	-	0	0
NOISE	Noise Level	-	0	-	-	0	-	-
	Exposure to Noise	-	0	-	-	0	0	0
LIGHT AND GLARE		-	0	0	X	0	0	0
LAND USE		0	0	X	X	0	X	X
RE-SOURCES	Use of Natural Resources	-	-	0	0	0	X	X
	Deplete Resources	-	-	-	-	-	0	0
HAZARDS	Toxic substances/Hazardous Waste	-	-	-	0	-	0	0
	Emergency Plans	-	X	X	X	X	X	X
POPULATION GROWTH		-	X	X	0	0	X	X

* Environmental Factors which will affect, or be affected by, current land uses or potential land use changes.

X = Major Effect

0 = Moderate or Potential Effect

- = Limited or Negligible Effect

Table ES-1 (Cont.)

ENVIRONMENTAL FACTORS		LAND USE POLICY MAP AREA						
		Open Space	Residential (Vacant)	Commercial (Vacant)	Industrial (Vacant)	Developed Areas	Community Wide	Region Wide
TRANSPORTATION/HOUSING CIRCULATION	Existing Housing	-	-	0	0	X	X	X
	Housing Factors	-	-	X	X	X	X	X
	Vehicle Movement	-	0	X	0	X	X	0
	Parking	-	-	X	0	0	0	0
	Transportation Systems	-	0	X	X	X	X	X
	Circulation Patterns	-	0	X	X	X	X	0
	Rail Traffic	-	-	0	X	0	0	0
	Air Traffic	-	-	-	-	-	-	-
	Traffic Hazards	-	0	0	0	0	X	X
PUBLIC SERVICES	Fire Protection	-	0	X	X	X	X	X
	Police Protection	0	0	0	0	X	X	X
	Schools	-	0	0	-	X	X	X
	Parks/Related Facilities	-	0	0	0	X	X	X
	Public Facilities/Services	-	0	0	0	X	X	X
	Other Gov't. Services	-	0	0	0	0	0	0
ENERGY	Fuel or Energy	-	-	0	0	0	0	0
	Demand on Energy	-	-	0	0	0	0	0

* Environmental Factors which will affect, or be affected by, current land uses or potential land use changes.

X = Major Effect

0 = Moderate or Potential Effect

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Table ES-1 (Cont.)

ENVIRONMENTAL FACTORS		LAND USE POLICY MAP AREA						
		Open Space	Residential (Vacant)	Commercial (Vacant)	Industrial (Vacant)	Developed Areas	Community Wide	Region Wide
UTILITIES	Power	-	-	0	0	-	0	0
	Natural Gas	-	-	0	0	-	0	0
	Communication	-	-	0	0	-	0	0
	Water	-	0	0	0	-	X	X
	Sewer	-	0	0	0	-	X	X
	Storm Drain	-	0	0	0	0	0	X
	Solid Waste	-	0	0	0	-	0	X
HUMAN HEALTH		-	0	0	X	X	X	X
AESTHETICS		X	X	X	0	X	X	X
CULTURAL	Archaeology	0	0	0	0	-	0	0
	Paleontology	-	-	-	-	-	0	0
	Historic	-	-	-	-	-	0	0
	Unique Cultural Values	-	-	-	-	-	-	-

* Environmental Factors which will affect, or be affected by, current land uses or potential land use changes.

X = Major Effect

0 = Moderate or Potential Effect

- = Limited or Negligible Effect

IV ENVIRONMENTAL IMPACT OF THE GENERAL PLAN

Table ES-2 summarizes the significant environmental impacts which will occur in the Grand Terrace study area subsequent to the full development under the new General Plan. The significant effects which will occur are the direct and indirect consequences of the City's growth from a population of 9,877 in 1987 to a projected 14,408 sometime after 2000. Included in Table ES-2 are mitigation measures which will help reduce negative effects. The measures include both policies incorporated in the General Plan and "other" measures which would be constructive, but which have not been adopted or approved.

TABLE ES-2

**SUMMARY OF SIGNIFICANT ENVIRONMENTAL IMPACTS
AND MITIGATION MEASURES**

MEA SECTION	GENERAL PLAN LAND USE POLICY MAP LOCATION	DESCRIPTION OF IMPACT	MITIGATION MEASURES	
			GENERAL PLAN	OTHER
Plants & Animals II B 5	Rural Land/Open Space.	Native plant and Animal Species Impacted by urban development.	Areas where such Impacts are likely to occur have been given a General Plan designation which signifi- cantly limits potential future development and supports maintenance of status quo conditions.	
Noise II A 5	Developed Areas Adjacent to Free- ways and the Rail- road.	A few housing units are within the 65 dBA noise impact contour.	Policies limit the amount of residentially designated property within the potential noise impact areas.	
Hazards II A 4, II A 6	Developed Areas, Industrial Areas.	Potential adverse im- pacts from toxic sub- stances, hazardous wastes, and natural disasters.	Policies call for City monitoring of businesses and locales which have a potential for introducing substances or hazardous materials into the environment.	City Disaster Preparedness Plan.
Traffic II F	Community-wide interface between developed areas and PUD/SP areas.	Increase in daily vehicle trips will occur in the event one or more major residential, commercial, or industrial develop- ments are constructed.	Provisions for adequate vehicle circulation in Specific Plan submittal. Inclusion of freeway access alternatives and circulation studies as part of the General Plan program.	Specific Plan re- view and environ- mental documentation requires consid- eration of potential vehicle circulation impacts.

TABLE ES-2 (Cont.)

MEA SECTION	GENERAL PLAN LAND USE POLICY MAP LOCATION	DESCRIPTION OF IMPACT	MITIGATION MEASURES	
			GENERAL PLAN	OTHER
Water System II E 1	Community-wide regional.	Potential population increases, as well as additional commercial and industrial development, would increase water demand.	Water conservation, both local and regional. Potential for aquifer recharge. Increased coordination with local water purveyors.	Reexamine water needs in light of potential population increases as new development is proposed. Specific Plan review.
Sewerage System	Community-wide.	Potential need for additional collection and treatment facilities to accommodate population increase.	Inclusion of sewer system improvements in City Capital Improvements Program. Policy for integration of General Plan proposals in sewer master planning. Policy of Coordination with adjacent agencies.	Examine sewer needs based on Sewer Master Plan recommendations. Specific Plan Review process to assess potential population increases as new development is proposed.
Storm Drain System II E 7	Community-wide.	Need for additional storm drainage facilities to accommodate potential population increase.	Inclusion of storm drainage facilities City Capital Improvement Program.	Specific Plan Review.
Public Facilities II O 1 thru 6, II 11	Community-wide.	Need for additional police, fire and City administration, increased number of school children.	In-lieu fees for new schools, encouragement of private recreation facilities, coordination with County Police and Fire Departments for increased service.	Specific Plan Review, possible use of user fees.

I INTRODUCTION

A. PURPOSE

The MEA/EIR is a single document designed to serve two functions: a Master Environmental Assessment (MEA) and an Environmental Impact Report (EIR).

The MEA is a description of natural and man-made conditions in the Grand Terrace Study Area, an "environmental catalogue" for the City, both now and over the life of the General Plan.

The EIR is an analysis of the environmental impacts of General Plan goals, policies, and programs.

The MEA will minimize paperwork and staff time for reviewing environmental impact reports on future development projects (both public and private). The "environmental catalogue" is organized in sections which parallel the elements of the General Plan, and has been designed to facilitate periodic updating in response to new information. (See Section C.2., Updating the MEA).

The EIR is intended to satisfy State requirements for environmental impact analysis for General Plans. By State law, a General Plan, whether a new plan or a revision to some or all elements, is considered a "project", and is therefore subject to State EIR guidelines (Title 14, Division 6, Chapter 3: Guidelines for Implementation of the California Environmental Quality Act of 1970). Major portions of the EIR have been incorporated in the Master Environmental Assessment. The MEA/EIR includes a reference section indicating where required portions of the EIR are contained.

B. THE GENERAL PLAN AND THE EIR

The State of California General Plan Guidelines (September 10, 1980) outline the interrelationship of the General Plan and General Plan EIR. They state:

"Although a General Plan and an EIR on a General Plan are legally distinct, they overlap extensively. They must address many of the same concerns, and the processes for preparing them are very similar. A thorough process for preparing or revising an entire General Plan will cover virtually every substantive requirement of an EIR. For this reason, environmental review should be an integral part of preparing or revising a General Plan, not an after-the-fact exercise."

The State recognizes that an EIR on a General Plan will not be as detailed as one on a specific project:

"An EIR on a local General Plan should focus on the secondary effects that can be expected to follow from the adoption, but the EIR need not be as detailed as an EIR on the specific construction projects that might follow." (15147 (B)).

C. THE MASTER ENVIRONMENTAL ASSESSMENT

State EIR Guidelines specify provisions for inclusion of a Master Environmental Assessment with a General Plan and General Plan EIR:

"A public agency may prepare a Master Environmental Assessment ... for all ... the territory subject to its control in order to provide information which may be used or referenced in EIR's or Negative Declarations." (15069.6 (a)).

1. Uses of the MEA

State EIR Guidelines list a number of specific uses for an MEA, (15069.6 d). Those relevant to Grand Terrace are summarized as follows:

- a. An MEA, "can identify the environmental characteristics and constraints of an area. This can be used to influence the design and location of individual projects."
- b. "A Master Environmental Assessment may provide information agencies can use in initial studies to decide whether certain environmental effects are likely to occur and whether certain effects will be significant."
- c. "A Master Environmental Assessment can provide a central source of current information for use in preparing individual EIR's and Negative Declarations."
- d. "Relevant portions of a Master Environmental Assessment can be referenced and summarized in EIR's and Negative Declarations."
- e. "A Master Environmental Assessment can assist in identifying long range, area-wide, and cumulative impacts of individual projects proposed in the area covered by the assessment."
- f. "A Master Environmental Assessment can assist the City ... in formulating a General Plan or any element of such a plan, by identifying environmental characteristics and constraints that need to be addressed in the General Plan."

- g. "A Master Environmental Assessment can serve as a reference document to assist public agencies which review other environmental documents dealing with activities in the area covered by the assessment. The public agency preparing the assessment should forward a completed copy to each agency which will review projects in the area."

2. Updating MEA

While some of the information presented in the MEA will remain relatively static (e.g., earthquake hazard), much of the data will change over time. For all aspects of the document to be useful, a formalized procedure for review and updating is necessary. The MEA has been prepared in such a way to simplify this review and updating. Principal features designed for this purpose include:

- Report contained in 3-ring binders for addition or deletion of pages; and
- Major topics beginning a new page.

D. ENVIRONMENTAL IMPACT REPORT (EIR)

1. Incorporation in MEA

Because the MEA is an information document, not a policy document, it may be updated by City staff without formal public hearings. The MEA should be given a comprehensive review annually. Major additions to the data base (such as population, land use and dwelling unit information) should be incorporated as soon as they become available. Table I-1 which follows includes a listing of specific environmental factors which can be expected to change and expected sources of new information.

TABLE I-1
MEA UPDATING GUIDE

MEA SECTION	TOPIC	SPECIFIC DATA	SOURCE
A-1	Geologic/Seismic	New Base Data Pertinent to Grand Terrace	California Department of Mines and Geology, San Bernardino County Planning Department
A-2	Flooding	Effects of storm drain improvements on flood hazard areas, reports on flood hazards	San Bernardino County Flood Control and Water Conservation District
A-3	Fire	Fire Service areas and major new facilities	San Bernardino County Fire Department
A-4	Toxic & Hazardous Waste	Industries using or generating toxic wastes	Grand Terrace Engineering Department
A-5	Noise	Alteration in Noise Sources	AT & SF, SP Railroads and Caltrans
A-6	Disasters	Review adequacy of Plan	Grand Terrace Planning Department
B-1	Water Resources	Changes in aquifer recharge, water quality and water sources	Riverside-Highland Water Company
B-2	Air Quality	Air quality monitoring data, and air pollution point sources	State Air Resources Board, South Coast Air Quality Management District
B-3	Energy	Plans, program, system	Southern California Gas Company, Southern California Edison Company

MEASUREMENT SECTION	TOPIC	SPECIFIC DATA	SOURCE
B-4	Soils/Agriculture	Soils conditions, agriculture areas	Grand Terrace Planning Department, Federal Soil Conservation Service, San Bernardino County Planning Department
B-5	Plants/Animals	Additions to listings of rare and endangered plants and animals	California Department of Fish and Game
C-1	Park/Open Space	Changes in Park/Open Space Facilities	Grand Terrace Planning Department
C-2	Scenic Highways/Vistas	Changes in status of scenic corridor areas	Grand Terrace Planning Department
C-3	Historic/Cultural Resources	Additions to listing of culturally/historically important features	Grand Terrace Planning Department
C-4	Library	Changes in library facilities	Grand Terrace Planning Department
D-1	Land Use	Update maps and tables on existing land use, vacant land areas, land use to zoning	Grand Terrace Planning Department
D-2	Population	Update Census tables	SCAG; U.S. Census; California Department of Finance
D-3	Economic Profile	Update tables	Grand Terrace Planning Department, City Manager's Office, San Bernardino County Planning Department

MEASUREMENT SECTION	TOPIC	SPECIFIC DATA	SOURCE
D-4	Residential Development	Update tables	Grand Terrace Planning Department
D-5	Commercial Development	Update tables	Grand Terrace Planning Department
D-6	Industrial Development	Update tables	Grand Terrace Planning Department
E-1	Water System	Changes to distribution system, service areas, reclamation, new sources	Riverside-Highland Water Company
E-2	Sewerage System	Changes in collection network, treatment facilities, proposed system	Grand Terrace Engineering Department
E-3	Solid Waste Disposal	Changes in collection methods, regional disposal sites closures, and capacities	Grand Terrace Planning Department
E-7	Storm Drain System	Alterations to flood protection measures	Grand Terrace Engineering Department San Bernardino County Flood Control
F	Circulation System	Update traffic volumes, add major changes to system	Grand Terrace Planning and Engineering Departments
G	Housing	Update housing projections and counts, see Grand Terrace Housing Assistance Plan	Grand Terrace Planning Department

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A-3	Fire	Fire Service areas and major new facilities	San Bernardino County Fire Department
A-4	Toxic & Hazardous Waste	Industries using or generating toxic wastes	Grand Terrace Engineering Department
A-5	Noise	Alteration in Noise Sources	AT & SF, SP Railroads and Caltrans
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B-2	Air Quality	Air quality monitoring data, and air pollution point sources	State Air Resources Board, South Coast Air Quality Management District
B-3	Energy	Plans, program, system	Southern California Gas Company, Southern California Edison Company

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D-5	Commercial Development	Update tables	Grand Terrace Planning Department
D-6	Industrial Development	Update tables	Grand Terrace Planning Department
E-1	Water System	Changes to distribu- tion system, service areas, reclamation, new sources	Riverside-Highland Water Company
E-2	Sewerage System	Changes in collection network, treatment facilities, proposed system	Grand Terrace Engi- neering Department
E-3	Solid Waste Disposal	Changes in collection methods, regional dis- posal sites closures, and capacities	Grand Terrace Planning Department
E-7	Storm Drain System	Alterations to flood protection measures	Grand Terrace Engi- neering Department San Bernardino County Flood Control
F	Circulation System	Update traffic volumes, add major changes to system	Grand Terrace Planning and Engi- neering Departments
G	Housing	Update housing projec- tions and counts, see Grand Terrace Housing Assistance Plan	Grand Terrace Planning Department

MEA SECTION	TOPIC	SPECIFIC DATA	SOURCE
H	Schools	Update table, changes in student generation factors	Colton Unified School District, Grand Terrace Planning Department

II ENVIRONMENTAL FACTORS

A. HAZARDS

1. Geologist/Seismic Hazards

a. Geologic Setting

The Grand Terrace planning area consists of three distinct topographic regions; a small portion of the Santa Ana River floodplain, a broad alluvial terrace upon which nearly all of the structures within the community are located, and steep hilly area. The elevation varies from about 900 feet to 2,428 feet. A topographic map of the community is presented as Figure II-1.

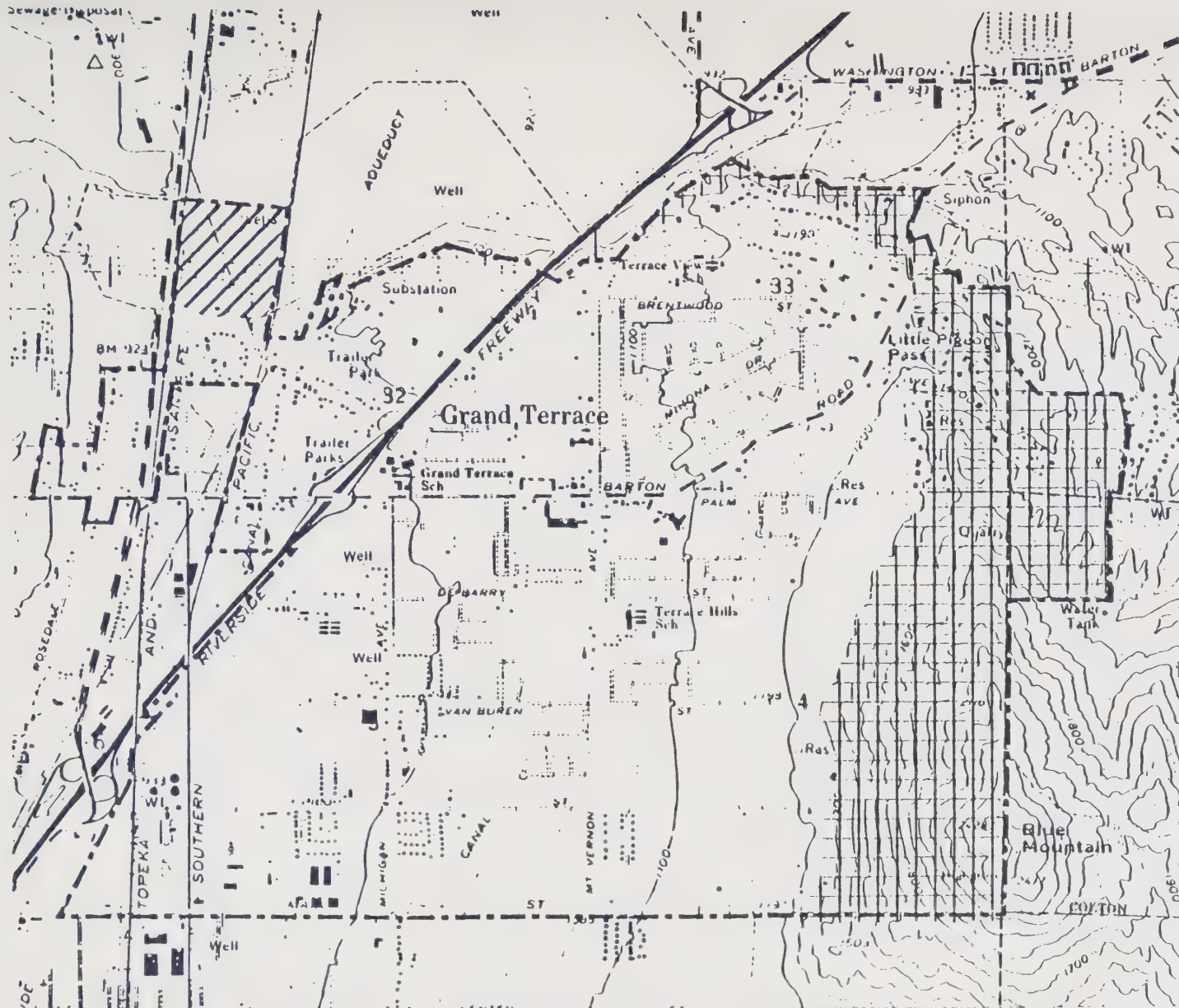
Geologic zones correspond with the topographic regions, as follows:

- Floodplain area: Santa Ana River Channel alluvium consisting of unconsolidated sand.
- Terrace area: older undifferentiated alluvial fan deposits and decomposed clay-rich alluvium of Pleistocene age.
- Hill area: Grey, medium to coarse grained quartz diorite of Cretaceous age.

b. Seismicity

Grand Terrace is located within a seismically active region. There are a number of active fault zones in the vicinity, any one of which could produce a potentially damaging earthquake. These five faults are located at various distances to the northeast of the City, i.e., an unnamed fault at 2,500 feet, Rialto-Colton at 3,500 feet, San Jacinto at 4,000 feet, Loma Linda at 12,500 feet, and the San Andreas at nine miles. Two other active faults include the Cucamonga, 13-1/2 miles to the north, and the Chino-Elsinore, 20 miles to the southeast.

The San Jacinto fault zone is considered one of the most active in Southern California. An Alquist-Priolo Special Studies Zone, which is a state designated fault ground rupture hazard area, has been defined for this fault. It is approximately 2,800 feet from the northeast corner of the City boundary at its nearest point. There are no known active fault zones within the City.

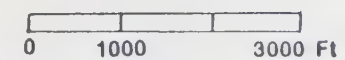


- CITY BOUNDARY
- TERRACE AREA
- FLOODPLAIN AREA
- HILL AREA

SOURCE: Beland/Associates, Inc

Figure II - 1
Topographic Map

City of Grand Terrace



Abrupt movements along faults are the cause of earthquakes. These movements can result in both primary and secondary hazards. Primary hazards result directly from ground motion and include ground rupture along the trace of the fault and ground shaking. Secondary hazards result from the interaction of the shaking and existing ground instabilities. They include settlement, landslides, and liquefaction (a sudden loss of strength in water-saturated sediments).

Small earthquakes occur more often than large ones. The risk of an earthquake of a particular size is indicated by its recurrence interval. The recurrence interval corresponds to the probability of that event occurring. A recurrence interval of 100 years corresponds to a 1 in 100 chance of an earthquake of a given magnitude happening in a single year. This does not mean that an earthquake of that magnitude will occur once every 100 years or that only one will occur within that time span, it is a statistical probability based on the best available data.

Structures can be designed to withstand earthquakes of different magnitudes. As structures are designed to withstand larger earthquakes, the level of risk decreases, but the cost of construction increases. This has led to the concept of acceptable risk. Acceptable risk is a subjective decision based on a balancing of the increased cost and reduced risk.

The level of acceptable risk can vary among different uses. For instance, it may be desirable to design certain public facilities such as hospitals and fire stations to withstand larger earthquakes than might be desirable for other structures. Since the determination of acceptable risk is a subjective decision, county and city planners in San Bernardino County have developed a scale of relative risk zones. These zones, as applicable to Grand Terrace, are illustrated on Figure II-2 and described on Table II-1.

Earthquake shaking at a particular site is a function of both distance to the fault and site geology. The majority of the Grand Terrace planning area has been classified in terms of ground shaking as Zones V and VI (the highest classifications). Technical information about what the zones mean in terms of maximum ground acceleration, period of ground shaking, and duration of ground shaking for each of the use categories, is given in Appendix A.

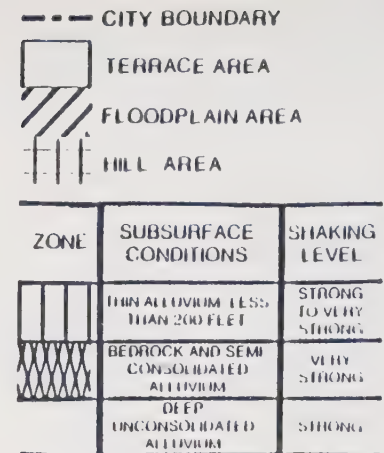
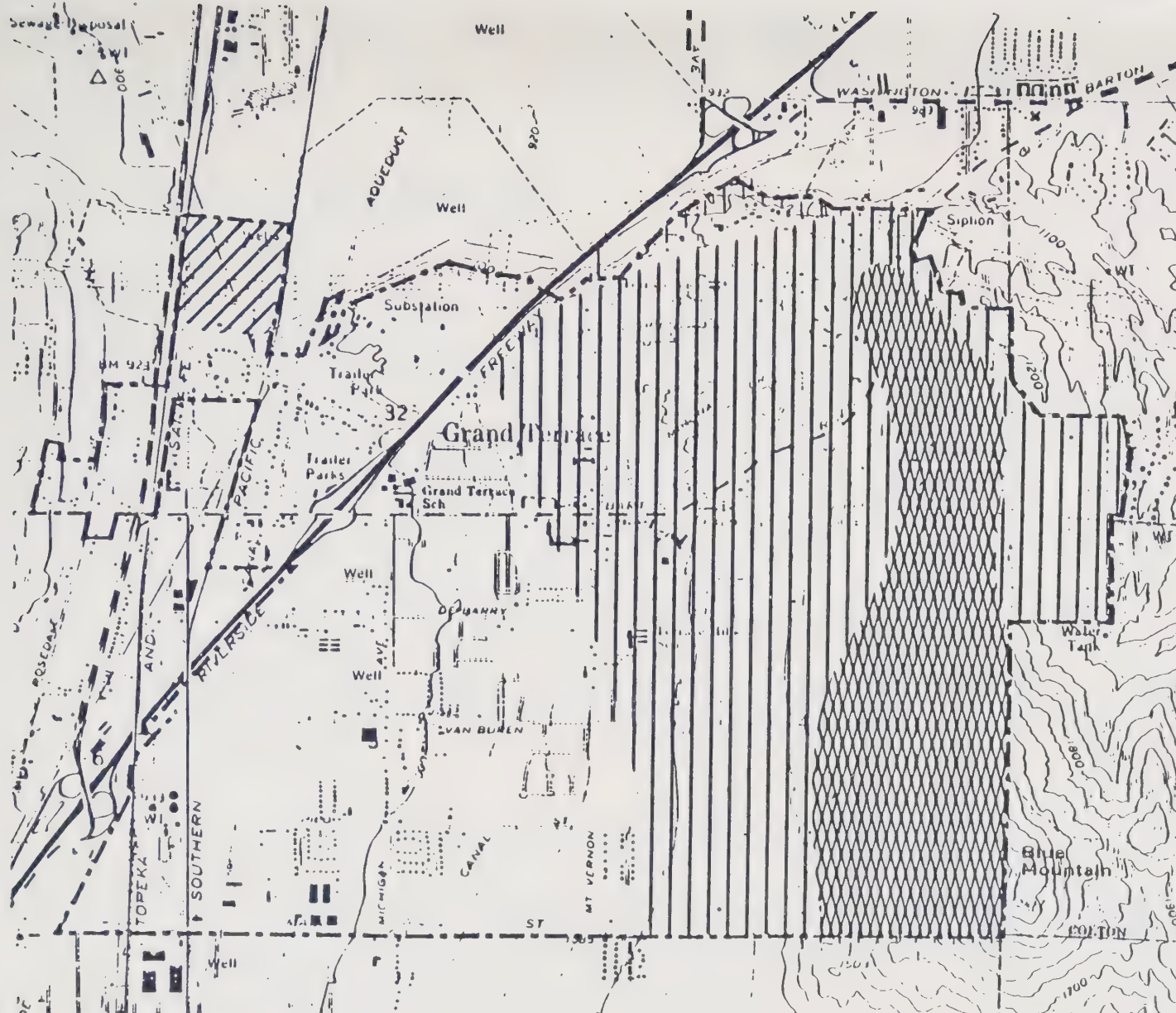


Figure II - 2
Seismic Zones

City of Grand Terrace

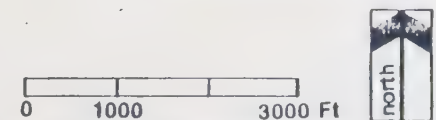


TABLE II-1
SEISMIC RISK - RELATE LAND USES

5-II Generally Increasing "Acceptable Risk"	BUILDING TYPE/LAND USES	RISK ZONE Increasing Relative Risk		
		IV	V	VI
	I Electrical Power Systems	△	△	△
	II Schools, Hospitals, Fire, Police, Emergency Communication Facilities, Critical Transportation Elements, such as Bridges, Overpasses, Smaller Dams, Important Utility Centers	○	○	○
	III Churches, Large or Highrise Buildings, or Other Places Normally Attracting Large Concentrations of People, such as Civic Buildings, Large Commercial Structures, Most Roads, Other Utilities	○	○	○
	IV Residential (Single-Family Residences, Apartments, etc.) Most Commercial and Minor Public Structures	○	○	○
	V Most Industrial, Other Minor Commercial (Warehouses)	○	○	○
	VI Agriculture, Marinas, Managed Mineral Resources Development, Parks, Other Open Space, Refuse Disposal Sites	●	●	●

FOOTNOTES:

1. Development May be feasible in slide areas if adequate provisions are made for stabilization, not generally feasible in potentially active fault zones.

GENERAL NOTES: This chart is for general land use planning only. Suitability for specific uses for a specific site must be confirmed by further investigation. An area evaluated as generally unsuitable for a particular use does not necessarily preclude the use, if not other more suitable alternative sites are available, and, provided that all potential hazards can be mitigated.

SYMBOLS:

- Generally Suitable
- Provisionally Suitable
- ▲ Generally Unsuitable

Source: Seismic and Safety Element, San Bernardino County General Plan, San Bernardino County, September 1974.

RIHAM TABLE FOR: GRAND TERRACE
COUNTY: SAN BERNARDINO

DATA CURRENT AS OF: 03/21/83
REPORT WRITTEN: 04/05/83

RIHAM SUMMARY TABLE

PART I CURRENT NEEDS AND GENERAL INFORMATION (01/01/83)

(1) TOTAL HOUSEHOLDS	3,268
(2) TOTAL HOUSING UNITS	3,554
(3) UNOCCUPIED UNITS (LINE 2 - LINE 1)	286

		-----TOTAL-----		-----OWNERS-----		-----RENTERS-----	
		VERY LOW	LOW	VERY LOW	LOW	VERY LOW	LOW
(4) HOUSEHOLDS IN NEED (LOWER INCOME HOUSEHOLDS PAYING OVER 30% OF INCOME FOR HOUSING, FROM 1980 CENSUS)	219	110	109	40	38	69	71

PART II FUTURE NEEDS (01/01/83 TO 01/01/88)

TOTAL	VERY LOW (0%-50%)	LOW (50%+-80%)	MODERATE (80%+-120%)	UPPER (OVER 120%)
-------	----------------------	-------------------	-------------------------	----------------------

(1) 1988 HOUSEHOLDS (PER SCAG-82)	3,600				
(2) 1983 HOUSEHOLDS	3,268				
(3) 5-YEAR GROWTH IN HOUSEHOLDS (LINE 1 - LINE 2)	332				
(4) 1988 MARKET VACANCY GOAL (FROM APPENDIX TABLE I)	136				
(5) 1983 MARKET VACANCIES	258				
(6) VACANCY SURPLUS OR DEFICIT (LINE 4 - LINE 5)	-122				
(7) 1983-88 EXPECTED UNITS LOST FROM STOCK	22				
(8) FUTURE HOUSING UNIT NEEDS, FOR ALL INCOME GROUPS, ADJUSTED TO AVOID IMPACTION, FROM APPENDIX TABLE III (LINES 3+6+7+8)	232 (100.00%)	29 (12.51%)	33 (14.42%)	40 (17.30%)	129 (55.76%)
(9) SPECIAL INCOME GROUP NEED FOR HIGH COST AREAS (NUMBER OF HOUSEHOLDS WITH ANNUAL INCOMES OVER \$29,798 (120% OF MEDIAN FOR JURISDICTION), BUT BELOW \$25,302 NEEDED TO PURCHASE MEDIAN-PRICED HOME AT \$73,800.	0				

	OWNER %	RENTER %	S.F. %	M.F. %
(10) TENURE AND BUILDING TYPE SPLITS OF 1988 HOUSING STOCK	77.21	22.79	71.08	28.92
(11) FARMWORKER HOUSEHOLDS ELIGIBLE FOR ASSISTANCE (FROM APPENDIX TABLE II)	9			

NOTE: FOR ADDITIONAL INFORMATION, PLEASE SEE FOOTNOTES, DEFINITIONS, AND METHODOLOGY EXPLANATIONS.

RHAM TABLE FOR: GRAND TERRACE
COUNTY: SAN BERNARDINODATA CURRENT AS OF: 03/21/83
REPORT WRITTEN: 04/05/83APPENDIX TABLE I
VACANCIES AND VACANCY RATES

PART I: 1988 MARKET VACANCIES	OWNERS	RENTERS	TOTAL
(1) TOTAL 1980 HOUSEHOLDS (1980 CENSUS)	2,360 (78.0%)	664 (22.0%)	3,024 (100.0%)
(2) UNITS MOVED-INTO PREVIOUS YEAR (1-79 TO 3-80)	409	447	856
(3) ANNUAL MOVE-IN RATE (LINE 2 / LINE 1)	17.33	67.32	28.31
(4) "IDEAL" MOBILITY RATE (MULTIPLY LINE 3 BY 2/15 (.13333) TO ALLOW FOR MOBILITY)	2.31	8.98	3.77
(5) 1988 HOUSEHOLDS (FROM RHAM SUMMARY TABLE, PART II, LINE 1)	2,808	792	3,600
(6) IDEAL VACANCY GOAL (LINE 5 / (100 - LINE 4)) (ENTER TOTAL ON RHAM SUMMARY TABLE, PART II, LINE 4)	65	71	136
PART II: 1983 MARKET VACANCIES			
(1) 1983 HOUSING STOCK	2,745	754	3,499
(2) 1983 MARKET VACANCY RATE	7.93	5.28	7.36
(3) 1983 MARKET VACANCIES (LINE 1 X LINE 2) ENTER TOTAL ON RHAM SUMMARY TABLE, PART II, LINE 5	218	40	258

NOTE: FOR THE YEAR 1988, THE TOTAL HOUSING UNITS COMPUTED FROM THE RHAM MAY DIFFER FROM THOSE COMPUTED FROM THE SCAG-82 GROWTH FORECAST, DUE TO THE INCLUSION IN THE SCAG-82 TOTALS OF UNITS THAT ARE VACANT, BUT NOT FOR SALE OR RENT. ACCORDING TO THE CENSUS OF POPULATION AND HOUSING, 51 UNITS WERE LISTED AS VACANT, NOT AVAILABLE FOR SALE OR RENT IN 1980. THIS MODEL ASSUMES THAT VACANT AND UNAVAILABLE UNITS WILL REMAIN AS PART OF THE HOUSING STOCK, BUT NEED NOT BE PART OF FUTURE HOUSING NEEDS.

APPENDIX F
TRAFFIC DATA

Source: C G Engineering Company.

	YEAR 1980	YEAR 2000	20 YR DELTA	PERCENT CHANGE
SAN BERNARDINO CO				
ADELANTO CITY				
POPULATION	2,014	3,900	1,886	93.64
HOUSING	1,037	2,000	963	92.86
BARSTOW CITY				
POPULATION	17,541	29,000	11,459	65.33
HOUSING	6,714	11,200	4,486	66.82
CHINO CITY				
POPULATION	40,068	57,814	17,746	44.29
HOUSING	11,364	18,371	7,007	61.66
CULTON CITY				
POPULATION	23,535	38,953	15,418	65.51
HOUSING	8,567	14,456	5,789	66.79
FONTANA CITY				
POPULATION	37,377	69,905	32,508	86.93
HOUSING	13,263	27,614	13,651	97.77
GRAND TERRACE CITY				
POPULATION	7,084	12,211	5,127	72.37
HOUSING	3,174	5,107	1,933	60.90
LOMA LINDA CITY				
POPULATION	10,994	13,622	2,628	23.90
HOUSING	4,715	5,969	1,254	26.60
MONTCLAIR CITY				
POPULATION	22,955	30,987	8,032	34.99
HOUSING	7,857	11,670	3,813	48.53
NEEDLES CITY				
POPULATION	4,110	4,940	830	20.19
HOUSING	1,745	2,139	394	22.58
ONTARIO CITY				
POPULATION	88,657	129,686	41,029	46.28
HOUSING	31,348	48,492	17,144	54.69
RANCHO CUCAMONGA CITY				
POPULATION	55,119	152,400	97,281	176.49
HOUSING	17,830	54,361	36,523	204.75
REDLANDS CITY				
POPULATION	43,542	63,476	19,934	45.78
HOUSING	17,150	26,120	8,970	52.30
RIALTO CITY				
POPULATION	39,074	72,632	33,558	85.88
HOUSING	14,225	27,970	13,745	96.63
SAN BERNARDINO CITY				
POPULATION	121,796	173,593	51,797	42.53
HOUSING	48,080	72,402	24,322	50.59
UPLAND CITY				
POPULATION	47,335	65,688	18,353	38.77
HOUSING	18,611	26,526	7,915	42.53

SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS
REGIONAL HOUSING ALLOCATION MODEL
SUMMARY OF HOUSING NEEDS

PAGE 26

COUNTY: SAN BERNARDINO

DATA CURRENT AS OF: 04/26/83
REPORT WRITTEN: 04/27/83

ADELANTO	TOTAL	--ALL HOUSEHOLDS--		--OWNERS--		--RENTERS--	
CURRENT HOUSING NEEDS	319	VERY LOW	LOW	VERY LOW	LOW	VERY LOW	LOW
		188	131	18	36	170	95
FUTURE HOUSING NEEDS, ADJUSTED TO AVOID IMPACT	TOTAL	--ALL HOUSEHOLDS--		--OWNERS--		--RENTERS--	
	116	VERY LOW	LOW	MODERATE	UPPER		
	(100.00%)	(21.54%)	(40.02%)	(18.36%)	(20.08%)		
1STOW	TOTAL	--ALL HOUSEHOLDS--		--OWNERS--		--RENTERS--	
CURRENT HOUSING NEEDS	954	VERY LOW	LOW	VERY LOW	LOW	VERY LOW	LOW
		608	346	152	124	486	222
FUTURE HOUSING NEEDS, ADJUSTED TO AVOID IMPACT	TOTAL	--ALL HOUSEHOLDS--		--OWNERS--		--RENTERS--	
	1,054	VERY LOW	LOW	MODERATE	UPPER		
	(100.00%)	(15.65%)	(22.59%)	(22.84%)	(39.22%)		
CHINO	TOTAL	--ALL HOUSEHOLDS--		--OWNERS--		--RENTERS--	
CURRENT HOUSING NEEDS	1,313	VERY LOW	LOW	VERY LOW	LOW	VERY LOW	LOW
		742	571	204	229	537	342
FUTURE HOUSING NEEDS, ADJUSTED TO AVOID IMPACT	TOTAL	--ALL HOUSEHOLDS--		--OWNERS--		--RENTERS--	
	2,957	VERY LOW	LOW	MODERATE	UPPER		
	(100.00%)	(11.75%)	(16.04%)	(17.90%)	(54.31%)		
COLTON	TOTAL	--ALL HOUSEHOLDS--		--OWNERS--		--RENTERS--	
CURRENT HOUSING NEEDS	1,274	VERY LOW	LOW	VERY LOW	LOW	VERY LOW	LOW
		816	460	158	131	657	330
FUTURE HOUSING NEEDS, ADJUSTED TO AVOID IMPACT	TOTAL	--ALL HOUSEHOLDS--		--OWNERS--		--RENTERS--	
	2,764	VERY LOW	LOW	MODERATE	UPPER		
	(100.00%)	(19.88%)	(27.26%)	(19.95%)	(32.91%)		
FONTANA	TOTAL	--ALL HOUSEHOLDS--		--OWNERS--		--RENTERS--	
CURRENT HOUSING NEEDS	2,145	VERY LOW	LOW	VERY LOW	LOW	VERY LOW	LOW
		1,362	783	455	339	907	444
FUTURE HOUSING NEEDS, ADJUSTED TO AVOID IMPACT	TOTAL	--ALL HOUSEHOLDS--		--OWNERS--		--RENTERS--	
	3,916	VERY LOW	LOW	MODERATE	UPPER		
	(100.00%)	(15.15%)	(23.99%)	(19.36%)	(41.50%)		
GRAND TERRACE	TOTAL	--ALL HOUSEHOLDS--		--OWNERS--		--RENTERS--	
CURRENT HOUSING NEEDS	219	VERY LOW	LOW	VERY LOW	LOW	VERY LOW	LOW
		110	109	40	38	69	71
FUTURE HOUSING NEEDS, ADJUSTED TO AVOID IMPACT	TOTAL	--ALL HOUSEHOLDS--		--OWNERS--		--RENTERS--	
	232	VERY LOW	LOW	MODERATE	UPPER		
	(100.00%)	(12.51%)	(14.42%)	(17.30%)	(55.78%)		

SEE ANAM SUMMARY TABLES FOR COMPLETE DETAILS



SOUTHERN CALIFORNIA
ASSOCIATION OF GOVERNMENTS

600 South Commonwealth Avenue • Suite 1000 • Los Angeles • California • 90005 • 213/385-1000

TO: Planning Directors
FROM: Housing Staff
DATE: Friday, May 6, 1983

RECEIVED
MAY 10 1983

CITY OF GRAND TERRACE

This packet contains the following:

- 1) RHAM Summary Table with Appendix Tables I, II & III attached.
- 2) RHAM Regional Summary
- 3) SCAG - 83 Disegregation Summary
- 4) Notice of RHAM workshop on May 16, 1983

Please note that copies of the new Regional Housing Allocation Model and supporting technical material were transmitted to your Planning department in mid-April. The individual RHAM tables for your jurisdiction were provided to staff attending the RHAM workshop held in each county.

Please examine the Summary table for your jurisdiction and disregard all earlier copies if the numbers have been changed in the most recent table. Please discard the old Regional Summary of Housing Needs found at the end of RHAM Part I Summary document (yellow cover).

RHAM TABLE FOR: GRAND TERRACE
COUNTY: SAN BERNARDINO

DATA CURRENT AS OF: 03/21/83
REPORT WRITTEN: 04/05/83

RHAM SUMMARY TABLE

PART I CURRENT NEEDS AND GENERAL INFORMATION (01/01/83)

(1) TOTAL HOUSEHOLDS	3,268	-----TOTAL-----		-----OWNERS-----		-----RENTERS-----	
(2) TOTAL HOUSING UNITS	3,554	VERY LOW	LOW	VERY LOW	LOW	VERY LOW	LOW
(3) UNOCCUPIED UNITS (LINE 2 - LINE 1)	286						
(4) HOUSEHOLDS IN NEED (LOWER INCOME HOUSEHOLDS PAYING OVER 30% OF INCOME FOR HOUSING, FROM 1980 CENSUS)	219	110	109	40	38	69	71

PART II FUTURE NEEDS (01/01/83 TO 01/01/88)

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		OWNER %	RENTER %	S.F. %	M.F. %
(10) TENURE AND BUILDING TYPE SPLITS OF 1988 HOUSING STOCK		77.21	22.79	71.08	28.92
(11) FARMWORKER HOUSEHOLDS ELIGIBLE FOR ASSISTANCE (FROM APPENDIX TABLE II)	9				

NOTE: FOR ADDITIONAL INFORMATION, PLEASE SEE FOOTNOTES, DEFINITIONS, AND METHODOLOGY EXPLANATIONS

RHAM TABLE FOR: GRAND TERRACE
COUNTY: SAN BERNARDINO

DATA CURRENT AS OF: 03/21/83
REPORT WRITTEN: 04/05/83

APPENDIX TABLE I
VACANCIES AND VACANCY RATES

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(4) "IDEAL" MOBILITY RATE (MULTIPLY LINE 3 BY 2/15 (.13333) TO ALLOW FOR MOBILITY)	2.31	8.98	3.77
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PART II: 1983 MARKET VACANCIES

(1) 1983 HOUSING STOCK	2,745	754	3,499
(2) 1983 MARKET VACANCY RATE	7.93	5.28	7.36
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RHAM TABLE FOR: GRAND TERRACE
COUNTY: SAN BERNARDINODATA CURRENT AS OF: 03/21/83
REPORT WRITTEN: 04/05/83APPENDIX TABLE II
FARMWORKER HOUSING NEEDS

	TOTAL	VERY LOW	LOW
(1) FARM, FISHING, FORESTRY WORKERS, 1980 CENSUS COUNTY TOTAL	7,745		
(2) FARM, FISHING, FORESTRY WORKERS, 1980 CENSUS JURISDICTION TOTAL	26		
(3) JURISDICTION PERCENTAGE OF COUNTY TOTAL (LINE 1 / LINE 2)	0.34		
(4) ESTIMATED FARMWORKER HOUSEHOLDS IN COUNTY (FROM EDD)	3164		
(5) ESTIMATED FARMWORKER HOUSEHOLDS IN JURISDICTION (MULTIPLY LINE 3 BY LINE 4)	11		
(6) PERCENTAGE OF LOW AND VERY LOW INCOME FARMWORKER HOUSEHOLDS	83.00	35.00	48.00
(7) TOTAL FARMWORKER HOUSEHOLDS ELIGIBLE FOR ASSISTANCE (MULTIPLY LINE 5 BY LINE 6 AND ENTER TOTAL ON RHAM SUMMARY TABLE, PART II, LINE 11)	9	4	5

APPENDIX TABLE III
IMPACTION AVOIDANCE FACTOR

	VERY LOW (%)	LOW (%)	MODERATE (%)	UPPER (%)	TOTAL (%)
(1) TOTAL FUTURE HOUSING NEEDS (FROM RHAM SUMMARY TABLE, LINE 8, TOTAL)					232
(2) REGIONAL INCOME DISTRIBUTION (FROM 1980 CENSUS)	39 (16.7%)	55 (23.5%)	44 (18.9%)	95 (40.9%)	232 (100.0%)
(3) LOCAL INCOME DISTRIBUTION (FROM 1980 CENSUS)	26 (11.1%)	26 (11.4%)	39 (16.8%)	141 (60.7%)	232 (100.0%)
(4) AVOIDANCE OF IMPACTION (100% EFFORT) (LINE 2 - LINE 3)	13	28	5	-46	-0
(5) MULTIPLY BY .25 (POLICY ADOPTED -- REASONABLE EFFORT TO AVOID IMPACTION)	3	7	1	-12	-0
(6) REVISED LOCAL DISTRIBUTION TO AVOID IMPACTION (LINE 5 + LINE 3) (ENTER ON RHAM SUMMARY TABLE, LINE 8)	12.5%	18.4%	17.8%	48.8%	100.0%



GRAND TERRACE

The actual damage resulting from an earthquake is related to the type of construction and foundation materials as well as to the magnitude of the earthquake. For example, wood frame houses are less susceptible to damage than masonry ones. The technical data on earthquake characteristics found in Appendix A can be related to standards in the most recent edition of the State of California Uniform Building Code.

Settlement in association with ground movement may occur in the Grand Terrace area. Landslides are a relatively minor hazard. Liquefaction, another secondary hazard, is also unlikely to occur in most portions of Grand Terrace. Liquefaction is a sudden loss of strength that results when settlement occurs in loosely packed water-saturated sediments, resulting in increased water pressure within the soil's pores and decreased stability. Liquefaction is of concern in the southwestern portion of the City and in floodplain areas where there is a high water table.

Seismic seiches are waves which can occur in a body of water as a result of seismic shaking. Seiching has been known to occur within storage tanks located near a fault, as it did in the 1971 San Fernando earthquake. This is likely to be the only kind of seiching that could occur in the Grand Terrace area. In extreme cases, such waves can rupture a water tank.

2. Flooding

Grand Terrace was Included in a San Bernardino County. Federal Flood Insurance Study published in June 1981. The only flood prone area within the City is a low-lying zone adjacent to the Santa Ana River; see Figure II-1. This area is considered unsuitable for habitable structures because of potential flood danger.

Sheet flow of rain water from hillside areas has resulted in some localized street flooding in the southern portion of the community. A storm drain system has been proposed to alleviate this problem (see Section II-E-7, Infrastructure, Flood Control Facilities).

3. Fires

The most serious fire threat within the planning area relates to man-made features; forest fires are not a hazard. Brush fires present a minor problem to freeway embankments of the City and in hillside areas. Private weed abatement efforts greatly reduce the risk of this hazard. Sufficient fuel does not exist on hillsides to be a major concern, although caution

in hillside development should be observed. The County's Fire Department is responsible for fire protection in Grand Terrace. In addition, they have a number of programs, including building inspections and public education, designed to help prevent fires. Major problem areas include the following:

- Fires started in trash bins;
- Mobile home parks;
- Brush adjacent to structures; and
- Structures which, due to age, have faulty electrical installation, building design and poor maintenance, are hazardous.

The quality of service provided by the Fire Department and a suitable City-wide water supply account for a successful fire elimination record.

It is up to the public, through its support of the fire prevention programs with the aim of increasing public response and awareness, to reduce to a minimum level the risk from fires.

4. Toxic and Hazardous Wastes

In the Environmental Protection Agency's report entitled State of the Environment 1980, background material on toxic and hazardous materials is presented. Data relevant to Grand Terrace has been abstracted from this report and is presented in this section.

There are many chemicals, a number in common usage, whose environmental and health effects are unknown, as well as some that have been proved harmful. Exposure to toxic substances can occur in many different ways, including: in the air; in drinking water; in food; in drugs and cosmetics; and in the work place.

Adverse human health effects of exposure to chemicals and other toxic substances has a very broad range. This ranges from high level exposures to some substances which can cause rashes, burns or poisoning, to prolonged exposure and/or low doses causing lung diseases, cancer and other problems. The possibility that toxic substances can cause cancer has been the focus of intense public and government concern in recent years. Most of the legislation dealing with toxic substances in the environment has been at the federal and state levels. To date, however, most programs appear to have had little deterrent effect. Implementation of toxic substance control

laws (e.g., Toxic Substance Control Act, TOSCA) has raised numerous questions concerning policy issues concerning trade secrets and testing.

The extent of the use of toxic substances within Grand Terrace is not known. Wastes generated by industrial processes are always a potential problem. It is not known to what extent this is a concern in the local community since no specific base data is available. Hazardous wastes are produced in many segments of society: industry, hospitals, research facilities, and government. Of these, industry is the largest source, with the chemical and allied products industry producing 60 percent of all industrial hazardous wastes according to EPA estimates. Common products and the potential hazardous wastes generated in their manufacture are listed on Table II-2.

TABLE II-2
COMMON HAZARDOUS WASTES

CHEMICAL	USE	MANUFACTURING HAZARD
C-56	Bug and Insect Killer	Acutely toxic, suspected carcinogen
Trichloroethylene (TCE)	Degreaser	Suspected carcinogen
Benzidene	Dye Industry	Known human carcinogen
Curene 442	Plastic Industry	Suspected carcinogen
Polychlorinated biphenyls (PCBs)	Insulators, paints, and electrical circuitry	Acutely toxic, suspected carcinogen
Benzene	Solvent	Suspected carcinogen
Tris	Fire Retardant	Suspected carcinogen
DDT	Bugs and Insect Killer	Acutely toxic
Vinyl Chloride	Plastics Industry	Known human carcinogen
Mercury	Multiple Uses	Acutely toxic
Lead	Multiple Uses	Acutely toxic, suspected carcinogen
Carbon Tetrachloride	Solvent	Acutely toxic, suspected carcinogen
Polybrominated biphenyls (PBBs)	Fire Retardant	Effects unknown

Source: State of the Environment, Environmental Protection Agency, 1980.

5. Noise

a. Noise Measurement

Noise intensity is discussed in terms of the Community Noise Equivalent Levels (CNEL). This measure presents a weighted average noise level that increases the relative significance of evening and nighttime noises. It recognizes that noises which occur during the evening and night are less tolerable than noises occurring at other times of the day. CNEL expresses a standard acoustical scale that includes both magnitude and frequency of occurrence. The accepted exterior noise level for this scale is generally 65 dB CNEL.

Table II-3 represents sound level standards for various land use categories in the Grand Terrace area.

b. Noise Sources

In the Grand Terrace Planning Area, there are two principal sources of noise emissions, which reach or exceed 65 dB CNEL (see Figure 3):

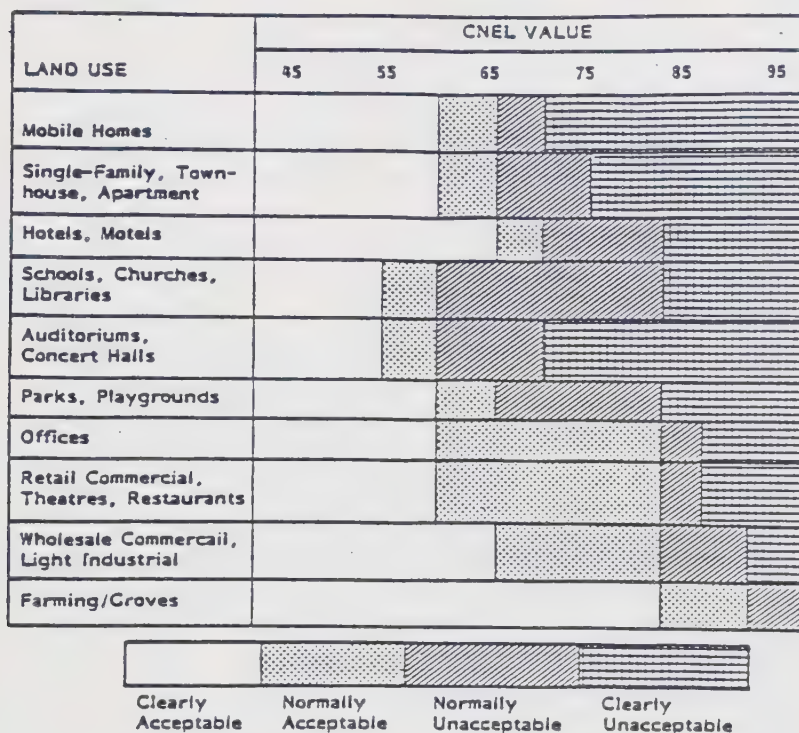
1. Railroad Lines - operations on the Southern Pacific and Santa Fe lines; and
2. Freeway - traffic from the Riverside Freeway (1-215E). Trucks are the primary source of freeway noise, although this source will be reduced somewhat in future years as the California Vehicle Code Standards are enforced and older trucks are replaced with new, quieter trucks.

Detailed maps of the noise impact areas are on file in the Grand Terrace City Planning Department.

As urbanization within Grand Terrace and the surrounding region continues, the intensity and duration of noise generated by transportation facilities serving this development is anticipated to increase. Of the two principal noise sources, traffic noise has the greatest potential for creating adverse impacts. This fact is recognized by both local and regional planning agencies.

TABLE II-3

LAND USE COMPATIBILITY FOR COMMUNITY NOISE EQUIVALENT LEVELS



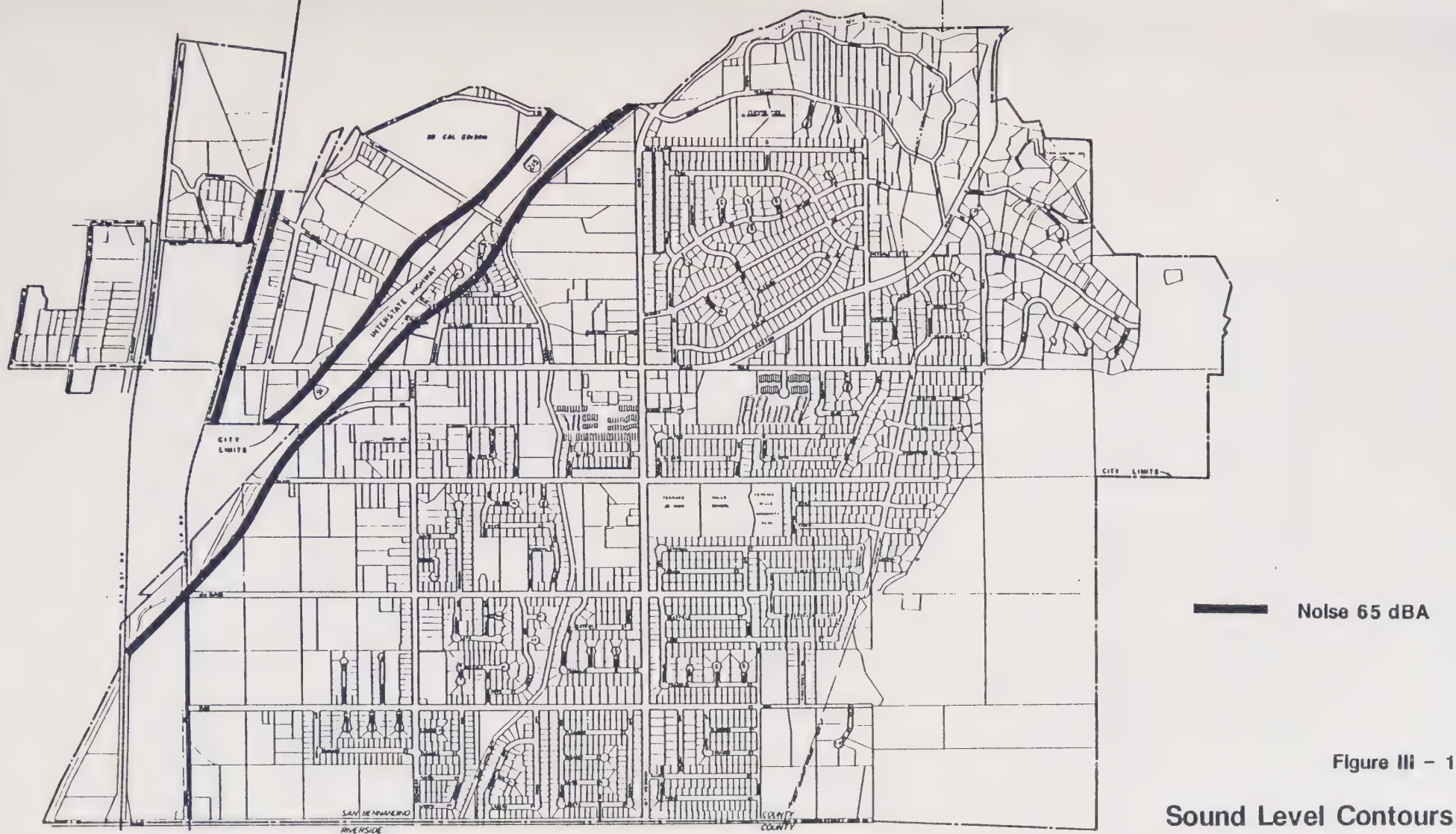
Clearly Acceptable: The noise exposure is such that the activities associated with the land use may be carried out with essentially no interference from aircraft noise. (Residential areas: both indoor and outdoor noise environments are pleasant).

Normally Acceptable: The noise exposure is great enough to be of some concern, but common building constructions will make the indoor environment acceptable, even for sleeping quarters. (Residential areas: the outdoor environment will reasonably pleasant for recreation and play).

Normally Unacceptable: The noise exposure is significantly more severe, so that unusual and costly building constructions are necessary to ensure adequate performance of activities. (Residential areas: barriers must be erected between the site and prominent noise sources to make the outdoor environment tolerable).

Clearly Unacceptable: The noise exposure at the site is so severe that construction costs to make the indoor environment acceptable for performance of activities would be prohibitive. (Residential areas: the outdoor environment would be intolerable for normal residential uses).

Source: HUD Noise Assessment Guidelines, August 1971.



City of Grand Terrace

0 2000 4000 Feet



6. Disasters

The City of Grand Terrace has an "Emergency Plan". This plan was prepared in an effort to ensure the most effective and economical use of all available resources (material and manpower) for the maximum benefit and protection of the City's population in time of emergency.

Urbanized portions of the City are of particular concern, since the largest concentration of people is found in these areas. Planning for disasters should not be limited to these areas alone, but is of region-wide importance.

Key areas of concern addressed in the Emergency Plan, in addition to the basic plan, include the following:

- Continuity of Government;
- Basic Actions for Increased Readiness;
- Warning Systems;
- Emergency Communications Systems;
- Emergency Broadcast Systems;
- Emergency Operating Center;
- Fallout Shelter System;
- Emergency Resources Management; and
- Progression of Local Emergency Situation.

B. NATURAL RESOURCES

1. Water Resources

The primary source of water to the City lies in pumping of groundwater from the Bunker Hills, Lytle Creek, Colton and Riverside Basins. The present capacity of the well supply for domestic water is approximately 6.7 million gallons/day. At the current time, six domestic reservoirs are distributed among three separate locations to provide water storage capacity to serve the City of Grand Terrace and a portion of north Riverside County. These reservoirs have a combined capacity of 7.75 million gallons. The Zone 3 reservoir has a capacity of three million gallons and is located at an elevation of 1542 feet. This reservoir provides water for properties at upper elevations. Three reservoirs serve Zone 2 (middle elevations) with a total capacity of 2.75 million gallons.

These reservoirs are located at 1334 feet above sea level. The lower elevations (Zone 1) are currently served by two reservoirs at the 1200 foot level which have a combined capacity of two million gallons. Plans are underway to replace an existing one million gallon reservoir in Zone 1 with a three million gallon reservoir. This would provide a total of four million gallons of water storage capacity in Zone 1 and would adequately serve projected future needs.

2. Climate/Air Quality

a. Climate

Grand Terrace has a semi-arid Mediterranean climate, with mild winters and hot, dry summers. Average annual precipitation is about 12 inches, although it has varied greatly in recent years from a low of six inches to a high of nearly 30 inches. Most rainfall occurs in winter months. Temperatures range from a low of 22° F. to as high as 110° F., with an average range of between 33° F. to 100° F.

Wind patterns vary seasonally, with westerly winds predominant in the summer and northeasterly winds during the winter. The local weather is also affected by winter storms which sometimes move down the Pacific coast, warm tropical air masses, and hot, dry Santa Ana winds caused by high-pressure systems located in the Great Basin.

b. Air Quality

(1) Background

Air pollutants are transported and dispersed by meteorological processes. Meteorological factors important to the transport of air pollution within the South Coast Air Basin are wind speed and direction and the presence of atmospheric temperature inversions. Wind conditions control both the local and regional trajectory of emissions.

During the day the air coming into Grand Terrace has often traversed numerous pollution source areas from the more heavily urbanized and industrial regions to the west. At night, the air arriving in Grand Terrace has passed over far fewer sources of air pollution which results in better air quality, particularly in winter, than the often poor air quality on many summer afternoons.

The problem of a long transport distance over many pollution sources in summer is compounded by temperature inversions that exacerbate the pollution problem. In summer, the air within the high pressure center over the ocean sinks and warms. Near the ocean's surface, the air cools by contact with the cool water. This forms a shallow, well-mixed layer of marine air about 1,000 feet deep capped by a massive layer of warm air. Pollutants emitted near the ground remain trapped within that shallow layer. As each pollution source adds its contribution to that layer, the air arriving at the eastern portion of the Los Angeles metropolitan area can become highly polluted with visibility degrading aerosols and with unhealthful, invisible gaseous pollutants. This condition will continue and become more concentrated until either the inversion breaks or surface winds increase to disperse the pollutants horizontally.

(2) Federal and State Standards

Ambient air quality is established by State and Federal standards adopted to protect public health with a margin of safety. In addition to ambient air quality standards California has adopted episode criteria for oxidants, carbon monoxide, sulfur dioxide, and particulate matter in combination with sulfate. The episode levels represent short-term exposures at which public health is actually threatened.

The Federal and State air quality standards are presented in Appendix A. The Clean Air Act Amendments of 1977 required attainment of Federal primary air quality standards by December 31, 1982. However, with EPA approval, an extension may be granted for carbon monoxide and oxidant to December 31, 1987.

Federal secondary standards at present have no specific attainment date. California State air quality standards were originally set as air quality goals with no specific date for achievement. Under the State Lewis Air Quality Management Act, an air quality management plan for the South Coast Air Basin, aimed at meeting State and Federal air quality standards, has been prepared by the South Coast Air Quality Management District and the Southern California Association of Governments. This plan has been approved by the State Air Resources Board and was submitted to the EPA as part of the State Implementation Plan for achieving and maintaining the Federal Air Quality Standards.

(3) Pollutant Levels

As previously noted, Grand Terrace is downwind from air that passes over many pollution sources. This severely impacts the Riverside and San Bernardino region of which Grand Terrace is a part.

The Air Quality Management District maintains monitoring stations at Riverside, Redlands, and San Bernardino. Data from these three stations, collected in 1984, 1985, and 1986, is presented on Tables II-4 and II-5.

TABLE II-4

NUMBER OF DAYS/SAMPLES
STATE AIR QUALITY STANDARDS EXCEEDED

Station/ Year		Pollutant						
		No. of Days Standards Exceeded				No. of Samples Exceeding Standard		
		Ozone	Carbon Monoxide	Sulfur Dioxide	Nitrogen Dioxide	Suspended Particulates	Sulfate	Lead
Riverside	1984	176	0	0	0	44	0	0
	1985	173	0	0	0	47	0	0
	1986	161	0	0	0	48	0	0
Redlands	1984	160	0	0	0	32	0	0
	1985	158	NM	NM	NM	NM	0	0
	1986	144	NM	NM	NM	NM	0	0
San Bernardino	1984	173	0	0	0	37	0	0
	1985	155	0	0	0	NM	0	0
	1986	149	0	0	0	28	0	0

NM: No Measurement

Source: AQMD, 1984, 1985, 1986 Summary of Air Quality in the South Coast Air Basin

TABLE II-5
NUMBER OF DAYS/SAMPLES
FEDERAL AIR QUALITY STANDARDS EXCEEDED

Station/ Year		Pollutant				
		Carbon Ozone	Sulfur Monoxide	TSP Dioxide	Lead (Samples)	(Samples)
Riverside	1984	137	0	0	27	0
	1985	125	0	0	29	0
	1986	106	0	0	24	0
Redlands	1984	116	NM	NM	12	0
	1985	113	NM	NM	8	0
	1986	93	0	0	3	0
San Bernardino	1984	135	0	0	18	0
	1985	111	0	0	23	0
	1986	108	0	0	26	0

NM: No Measurement

Source: AQMD, 1984, 1985, 1986 Summary of Air Quality in the South Coast Air Basin.

3. Energy Conservation

Conservation of natural energy resources is of the highest priority, both nationally and locally. Measures which result in the conservation of energy can be divided into three major categories: (1) incorporation of energy conserving features in new construction, (2) installation of energy conserving features into existing structures, and (3) residents practicing energy conserving measures. Most of the features which can be incorporated into new construction can also features installed in existing units. A suggested list of such features is included in Appendix Table D. Potential conservation measures which can be practiced by residents are also listed in Appendix D.

There are a variety of programs available to builders and property owners dealing with energy conservation. Such programs are found at federal, state, and local levels, and include a wide range of strategies. To attempt a comprehensive list of such programs is beyond the scope of the current study.

At the present time, some of the most accessible programs for both builders and property owners are being undertaken by the larger utility companies; specifically the Southern California Edison Company and the Southern California Gas Company. The Gas Company offers awards to builders who construct projects which meet specific energy efficiency standards. In addition, both the Gas Company and the Edison Company provide assistance to consumers. This includes special consumer information sections which disseminate conservation information through community organizations and special programs, bill inserts, as well as education programs through local schools.

4. Soils/Agriculture

Data on local soils is primarily used for agricultural purposes. Arable soils are grouped by capability classification according to their potentials and/or limitations for sustaining cultivated crops. Non-arable soils are grouped according to the risks for soil damage and their potential for permanent vegetation.

All of the soils in the "Terrace" portion of Grand Terrace (see Appendix B) are classified as "Class II", which is defined as follows:

- ° Soils have few limitations or hazards. Simple conservation practices are needed when cultivated. They are suited to cultivated crops, pasture, range, woodland, or wildlife.

Despite the suitability of the soils in Grand Terrace to sustain agriculture, the amount of urbanization to the community and the pressures for additional development severely constrain the viability of agriculture as a permanent use.

General soils information for the Grand Terrace area was obtained from the "Soil-Survey of San Bernardino County, Southwestern Part, California" prepared by the Soil Conservation Service, U. S. Department of Agriculture. General soil properties and descriptions by soils type, as well as a map of their location, is given in Appendix B.

The majority of the soils in the "Terrace" area have slight to moderate limitations or hazards. Severe limitations exist in the soils found in the Blue Mountain area, the hills in the northeastern portion of the City, and in the northern terrace slope. Adverse soils conditions do not affect developed portions of the City.

5. Plants and Animals

All of the incorporated area of Grand Terrace, as well as much of the surrounding area, has been heavily impacted by human activity. Steep hillside areas in the eastern portion of the community remain generally undeveloped and contain the only appreciable native plant and animal habitats. This hillside area supports a variety of grasses, annuals, and small shrubs. No rare or endangered plant species are known to live in the area. Wildlife include a large number of insects, reptiles, and bird species, as well as many common smaller mammals. These include coyotes, raccoons, opossums, rabbits, many species of rodents, and possibly an occasional mule-deer, ringtail or bobcat. The habitat of the rare orange-throated Whiptail lizard (Cnemidophorus hyperythrus Geldingi) may include hillside areas in Grand Terrace, and much of the surrounding hilly area, although this species is more commonly found in open areas. The species is sensitive to the disruption of its habitat and does not coexist well with man. Background data is included as Appendix C.

6. Paleontologic/Archaeologic

There are no known archaeologic or paleontologic sites in the City of Grand Terrace. The existing body of knowledge has not identified any likelihood of local settlement by native Californians. The history of the City, particularly the agricultural use of the area, makes the possibility of finding archaeologic and paleontologic resource materials remote. However, the need for an archaeologic survey of vacant properties, especially in areas not subject of previous development activity, should not be overlooked.

With an ultimate population of 14,408 persons projected to reside in the City by the year 2010, the amount of existing park acreage will not be adequate to serve the community. To serve a future population of this size, a minimum of 58 acres of local parkland should be available to City residents.

2. Scenic Highways and Vistas

Scenic views of nearby hills and the valley to the north are prominent from a number of locales within the community. Several recently constructed housing tracts have been oriented to take advantage of these views.

There are no designated scenic highways within Grand Terrace.

3. Historic and Cultural Resources

There are few reminders of the region's history within Grand Terrace. No structures are known to predate 1900, although the historic Lopez Adobe and Aqua Mansa Cemetery are located within a few miles of the community. The only structure considered to have any local historic interest is the original Grand Terrace School on Barton Road, east of the Riverside Freeway. It has long been a City landmark.

4. Library Facilities

The Grand Terrace Library was opened in April 1984. As part of the Civic Center Complex it is estimated that the library contains over 14,000 volumes of books, periodicals, and reference materials.

D. COMMUNITY DEVELOPMENT

1. Land Use

a. Introduction

An accurate, clearly defined description of existing land uses within the community is the single most important set of base data used in the development of a General Plan. This information is extremely useful in determining the distribution of development, the location and adequacy of public facilities, and a number of basic planning factors. Specific data sources include the following:

° Survey Techniques

The information presented in this section is derived principally from the survey prepared as part of the previous General Plan and augmented through a field survey conducted by Willdan Associates during

the summer of 1987. The entire City, as well as immediately adjacent areas, were inspected on a parcel by parcel basis. In addition to the field survey, aerial photographs were reviewed.

b. Survey of Existing Land Use

(1) Specific Land Use Characteristics

Eleven separate categories were used in tabulating existing land uses. The results of the land uses are shown in Table II-6. The following describes the existing development patterns by use category.

(a) Residential

Approximately 41 percent of the City is devoted to residential land uses. The preponderance of residential uses are single-family, low density in nature. Single-family uses comprise 31 percent of the total City. Six percent of the City is developed with multiple-family uses, more than one unit per parcel. Mobilehome uses constitute 26 acres or approximately one percent of the City.

(b) Commercial

There are 138 acres of commercial property within the City. This is approximately 6 percent of the total acreage of the City. Over 90 percent of the commercial uses are retail outlets, service business or restaurants. The majority of properties which currently contain commercial uses are underutilized and marginally productive. Many of the properties include a mixture of commercial and residential uses.

Strip commercial uses are located on Barton Road, with the highest concentration between Mount Vernon and Michigan Avenues. A neighborhood shopping center, anchored by Stater Brothers and is located at the intersection of Mount Vernon Avenue and Barton Road.

Few offices are located in Grand Terrace, and most are located in mixed commercial and office developments. A freestanding office building has been completed on the south side of Barton Road near the Gage Canal.

vacant acreage. Other large parcels of developable land are located along the western and northern borders of the City. The urbanized area also contains a number of undeveloped parcels surrounded by other development.

c. Current General Plan Land Use

The updated General Plan Community Development Element contains the City's adopted Land Use Policy Map and presents descriptive information on land use categories and policies. A table (Table VI-1) in the General Plan gives a complete acreage breakdown by land use, including the amount of vacant land within each category.

2. Population Evaluation

a. Current Population Estimates

As of April 1987, Grand Terrace had a population of 9,877, a slight decrease over the previous years population of 9,991. According to the State Department of Finance, the decrease is attributable to a reduction in the overall population per household figures as determined by statistical profile from total San Bernardino County data. As shown in Table II-7 the population of the City has grown at an average annual rate of approximately 2.2 percent per year. The largest percentage increase in growth occurred between the years 1982 and 1983. The City's population has grown a total of 16 percent since the 1980 Census figure.

(1) Population Per Unit

The 1980 Census indicates that there are 3,282 housing units in Grand Terrace, resulting in an estimated average of 2.59 persons per unit. This average covers wide variations in household size; multi-family developments (i.e., apartments and condominiums) generally have smaller households than single-family units.

A complete evaluation of 1980 Census information is included in the Grand Terrace Housing Assistance Plan. The 1980 Census base data is found in Appendix C of this report.

b. Population Projections

Buildout over the life of the General Plan was estimated using three separate methods of population projection. A straight line projection was used based on historical trends of both population and housing units over the past seven years. Additionally, maximum development under proposed General Plan acreages for residential land uses were applied to all vacant land, as a control point to check the straight line projections.

In terms of population, the City has experienced an increase of 1,379 people over the past seven years or an annual average population growth of 197 people per year. Using this average over the next 27 years, a population increase of 4,531 can be expected. This equates to a future population of 14,408. Similarly, the City has experienced a total increase of 406 units over the past seven years for an average annual increase of 59 units per year. Using this average, the City can expect a total of 1,347 new units to be built over the course of the next 23 years. Incorporating an estimated population per household of 2.6 persons, the total increase over the life of the plan will be 3,503, or a total future population of 13,380.

TABLE II-7
POPULATION GROWTH WITHIN
GRAND TERRACE 1980 TO PRESENT

	Total Population	% Change
1987	9,877	- 1.0%
1986	9,991	1.2%
1985	9,875	2.3%
1984	9,651	2.6%
1983	9,410	5.8%
1982	8,893	1.8%
1981	8,732	2.8%
1980	8,498	--

Sources: Department of Finance
Willdan Associates

The maximum anticipated buildout of the City has been estimated by multiplying the total vacant land (portrayed in Table VI-1 of the General Plan) by the maximum allowable density under the proposed General Plan designations. The total unit count was then added to the units which have previously been approved, but yet to be developed along Mount Vernon Road. The results of this effort are displayed in Table II-8

TABLE II-8

MAXIMUM BUILDOUT BASED ON ALLOWABLE
DENSITIES AND PREVIOUSLY APPROVED PROJECTS

	Vacant Acreage	Maximum Units Per Acre	Maximum Units
Low Density	202	5	1,010
Medium Density	9.7	12	116
Previously Approved Projects			<u>344</u>
TOTAL			1,470

Source: Willdan Associates, 1987

As can be seen from Table 8, 1,470 additional units could be constructed on available vacant residential lands. Incorporating the population per household figure, the increase would equal 3,822 people for a total future population of 13,699.

In summarizing the results of the three methods of projecting population, the population is estimated to fall somewhere between 13,380 and 14,408 persons. The former figure based on straight line population projections, the latter based on a straight line unit projections. The infill projection, based on full development under the existing General Plan designations, is projected to be somewhere between the straight line methods. It is worthy to note that some properties within the City which are currently underutilized will be recycled or intensified over the life of the plan and, therefore, the 14,408 has been determined to be the most acceptable future population projection.

E. INFRASTRUCTURE

1. Water System

The City is served entirely by the Riverside-Highland Water Company, a mutual water company whose jurisdiction extends beyond the limits of Grand Terrace. The company provides water for both domestic and agricultural use, with the domestic demand originating primarily from Grand Terrace.

According to the water company, capacities will be adequate to provide and store water for the ongoing growth within the City and to meet the required fire flows.

Recent construction projects have been undertaken to close loops within particular zones, thereby providing improved water service capabilities.

In 1986, the water company initiated a planned program to replace deficient lines and valves with the system. At that time, the estimated cost for this program of phased improvements totaled \$5.5 million. Construction of water lines is also undertaken as new development occurs and lines are sized based upon demand projections by the water company of current and future development.

The water company states that they have no major deficiency problems at present related to capacity or condition of lines. Fire flows were proven adequate by the most recent brush fires which were adequately handled by the current system. Portions of the system are quite old, however, and certain areas are lacking in valves resulting in major shutdowns in the event a line must be worked on.

Water conservation methods applicable to existing uses and new construction are included as Appendix E.

2. Sanitary Sewer System

The entire City of Grand Terrace, with the exception of a couple of isolated areas, is on a sanitary sewer system, see Figure II-4. The backbone of this system was installed with the creation of County Service Area #70, Zone H. The entire system is gravity flow and the majority drains to the 21-inch trunk main in La Cadena Drive. The northeast portion of the City, however, drains northerly in Barton Road to Washington Street. All of the City sewage eventually is transported to the Colton Regional Treatment Plant. The City of Grand Terrace has a current purchased capacity of 1.6 MGD (average) in the Colton plant. This capacity is adequate at present



ALL LINES 8 IN. UNLESS NOTED

Source: County Service Area 70

Improvement Zone H

Assessment District 1

Figure II - 4
Sewer System

City of Grand Terrace

0 2000 4000 Feet



to service Grand Terrace as meter readings on the La Cadena trunk line indicate an average flow from Grand Terrace of approximately 1 MGD, which includes an existing area not within the City of Grand Terrace.

A report entitled "Grand Terrace Water and Wastewater Requirement Evaluation" prepared by L. W. Rowe and Associates pointed out several areas of potential capacity problems within the system. The most critical problem location was the intersection of DeBerry Street and Mt. Vernon Avenue where an eight-inch pipe at .004 feet per foot slope will serve a maximum projected population of 2075 based on the maximum allowable density of the old County General Plan. There are currently no existing capacity problems at this or any other location within the City and development that has occurred has not proceeded at the maximum allowable densities. There are, therefore, no projected areas, based on the County General Plan which was used to design the system, where sewer capacity presents a problem.

The physical condition of the lines themselves is, in general, good and no problems currently exist because of deterioration.

3. Solid Waste

Solid Waste is collected by Loma Linda Disposal Company. Although there are other companies which collect solid waste from individual developments within the City, Loma Linda Disposal handles the vast majority. Their service area covers the entire area within the present City limits. Residential customers are billed directly by the company for service once per week.

Up until 1988, solid waste generated by the City of Grand Terrace was hauled to San Bernardino County's Colton landfill site. Plans call for the closure of this site in 1988, at which time solid waste will be hauled to the County's San Timoteo landfill site. The San Timoteo landfill is located near Barton Road northeasterly of the City of Grand Terrace.

4. Electrical Transmission

Electricity is supplied by the Southern California Edison Company. Grand Terrace is within the San Bernardino District of the Edison Company. There are currently no specific power demand problems for serving this area and no major power line projects are currently scheduled.

The Edison Company has an existing power plant within the City limits. This plant is used to provide power during peak demand periods and is not in use at all times. No foreseeable problems or limitations to development exist because of a lack of ability to provide electrical service to Grand Terrace.

5. Natural Gas

Natural gas is supplied by the Southern California Gas Company. They currently do not experience supply problems and feel their facilities are adequate to handle the growth in the Grand Terrace area since it is fed from more than one location.

The Gas Company has no current plans for a major gas construction project and, barring the development of a large amount of industrial expansion in Grand Terrace, do not foresee the need for such a project.

6. Communications

Telephone service is provided by Pacific Telephone Company. The recent division of the 714 area code and creation of the new 619 area code has provided an increased amount of numbers to this area. The telephone company currently has no problems serving the Grand Terrace area and does not expect that the continued growth within the City will hamper their ability to provide service.

Comcast cable is the franchise company to provide cable TV to the City of Grand Terrace. All plans have been completed and construction of the underground work will provide cable TV service to the entire City.

7. Flood Control

The Grand Terrace area is included in the San Bernardino County Comprehensive Storm Drain Plan, Project No. 3. This plan identifies an integrated plan of storm drains for a study area within the county (which includes Grand Terrace) and details flood control systems necessary for each portion of the study area. The study is used as a guide for the storm drain designs by local agencies. Figure II-5 illustrates the current system.

Project Nos. 3-15 through 3-17 serve drainage areas within the Grand Terrace area. Project 3-15 consists of a planned open channel running along the natural watercourse near the north City limits. The drainage area includes portions of the northeast area of the City. This project is designed for a 25-year frequency.

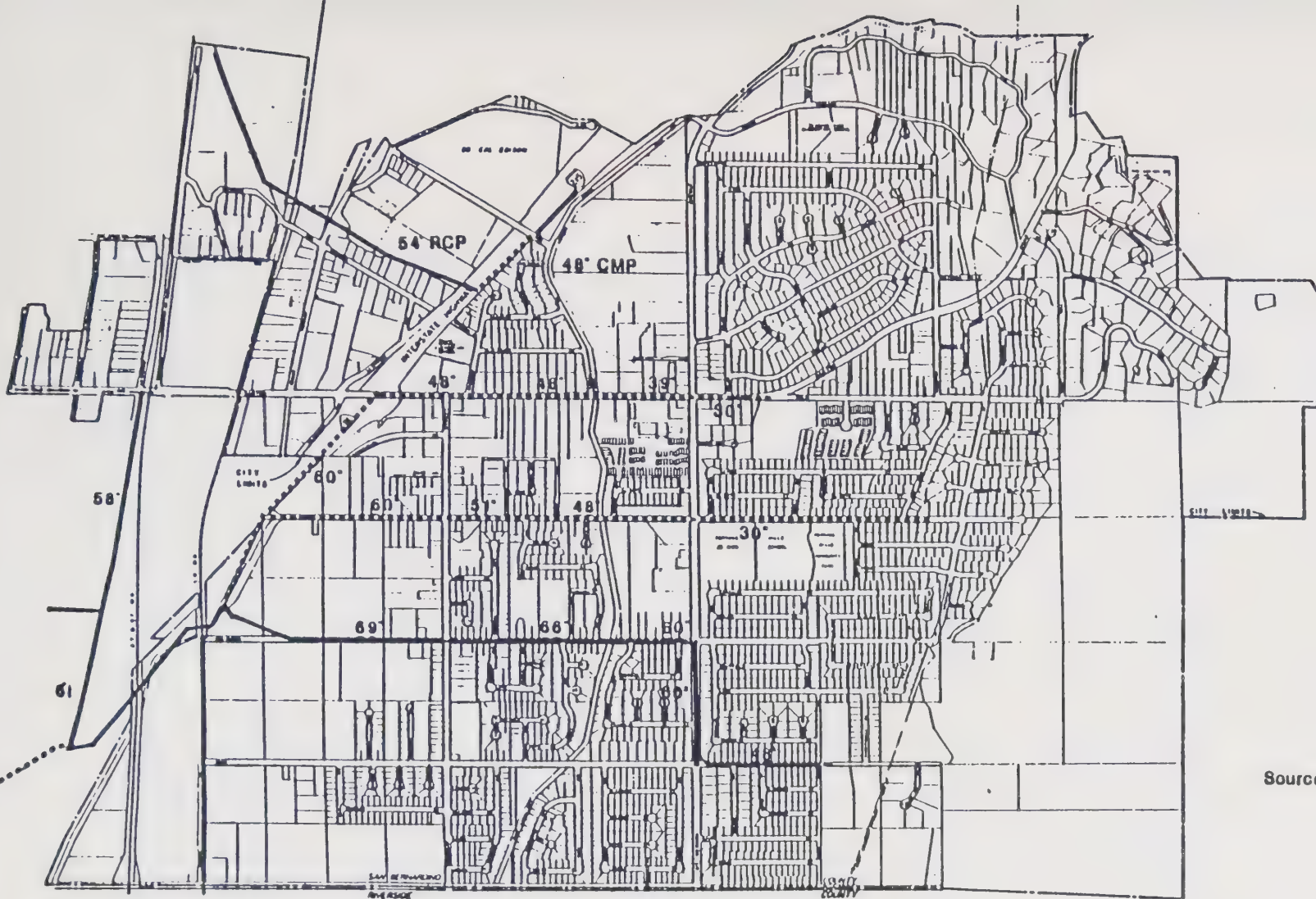
Project 3-16 consists of an open channel along the south side of I-15E from approximately 1000 feet northeast of Newport Avenue to approximately 400 feet northeast of Vivienda Avenue, under the freeway and through the northwestern portion of the city to the Santa Ana River. Portions of this project already exist. This project is also designed for a 25-year frequency.

Project 3-17 is known as the Grand Terrace Storm Drain System and consists of major storm drains in Barton Road, DeBerry Street and Van Buren Street. These lines are to carry storm water westerly, then southwest along I-15E crossing under the freeway near the AT&SF Railway and heading westerly toward the City of Riverside Reservoir. The channel and storm drain along the freeway, the storm drain in Barton Road and the storm drain in DeBerry Street have been constructed.

Maintenance of the existing system is provided by the County.

The Comprehensive Storm Drain Plan was developed in May 1973 by Verpet Engineering Company and utilized ultimate land use information in effect at that time from the various cities and the County Planning Department.

The City falls within Zone D of the Federal Insurance Agency's Flood Insurance Rate Map. Zone D is defined as areas of undetermined but possible flood hazards. The agency is in the process of updating these maps and has hired Toup Corporation to do this work.



Source : San Bernardino County
Storm Drain Plan

Figure II - 5
Storm
Drainage
System

City of Grand Terrace

0 2000 4000 Feet



It is likely that a portion of the area between La Cadena Drive and the SPRR north of the city limits and below the bluff will be placed in a different zone as this area is designated as a flood plain on the old County General Plan. This area below the bluff and adjacent to the Santa Ana River should be the only area within the City that will possibly be changed on the Rate Maps to reflect a possible flood hazard.

F. CIRCULATION

1. Existing Conditions

Existing traffic volumes are shown in Table II-9, Traffic Data Average Annual Daily Traffic (AADT) volumes for all existing streets shown in the circulation system of the County General Plan were obtained from the County of San Bernardino or, where not available, were calculated from recent traffic counts. Freeway volumes were obtained from Caltrans.

The principal highway through Grand Terrace is Interstate 215, a six-lane freeway with interchanges at Washington Street (north of the City), Barton Road, and Iowa Avenue (southwest of the City). An additional freeway grade separation also exists for Newport Avenue.

This freeway extends north from Grand Terrace through San Bernardino to its terminus junction with Interstate 15 near Devore. The freeway extends southwest to State Route 91 connecting Grand Terrace to Riverside and eventually the beach communities of Orange County.

Current freeway peak hour volumes result in Level of Service "C". This level of service is usually suitable for urban design standards and the freeway is, therefore, currently operating adequately.

The main north-south arterial through the City is Mt. Vernon Avenue, which varies in width from four lanes near the center of the City to two lanes near the north and south City limits. Mt. Vernon Avenue, during peak hours, generally operates at Level of Service "A" (free flow) but has dropped to Level of Service "B" (stable flow, speed somewhat restricted by volumes) near the Barton Road intersection where only two lanes still exists. Mt. Vernon Avenue extends from Highgrove to the south, through Grand Terrace to I-215, and north into San Bernardino.

The main east-west arterial is Barton Road, which also varies in width with the major portion through the City being four lanes. Barton Road is the most heavily traveled surface street in Grand Terrace and operates during peak hours at Levels of Service "A" and "B". Signalized intersections exist on Barton Road at Michigan Street, Mt. Vernon Avenue, Preston Street, and at the freeway access ramps.

Barton Road extends from La Cadena Drive on the west through Grand Terrace, then northeast into the communities of Loma Linda and Redlands.

La Cadena Drive is a four- to six-lane divided arterial on the west fringe of Grand Terrace. It extends from Riverside north into Colton and has freeway interchanges at both I-215 and I-10.

Because of its width and relatively low peak hour volumes, traffic flow is generally good and the street operates at a Level of Service "A".

The remaining streets in the circulation system are currently two-lane roadways with relatively low AADT and peak hour volumes. All of these roadways operate at Level of Service "A".

2. Future Circulation System Considerations

The volumes on the existing facilities are expanded to the study target date (year 2010 in this case). Existing street and freeway volumes are increased by two percent per year to account for traffic expansion from outside the area.

The traffic volumes which will be generated by the development based upon land use are then added and the volumes geographically distributed to major attractions of trips such as the freeway, employment centers, and commercial developments. Finally, the trips are assigned to specific roadways for the various alternatives. Total and peak hour volumes are shown and impacts on area circulation can be noted by predicted levels of service.

The impact of future development under General Plan policies is expressed as the City's Master Plan of Streets and Highways. This plan, and the accompanying discussion on which it is based, is included in its entirety in the Circulation Element of the General Plan. Projection of traffic volumes and anticipated service levels for all major street segments within the community are listed in Table II-9 of this report.

Figure II-7 shows Barton Road/Interstate Route 215 interchange needed improvements. Widening the overcrossing on the north side will provide four through lanes, one left-turn lane in the center and a sidewalk on the north side of the structure. To the east, Barton Road will continue as a six-lane modified major highway. To the east of the structure, Barton Road will be six through lanes with a striped turn lane median. The third eastbound lane will begin at the northbound off-ramp and a westbound lane will end at the northbound on-ramp in the same manner as existing.

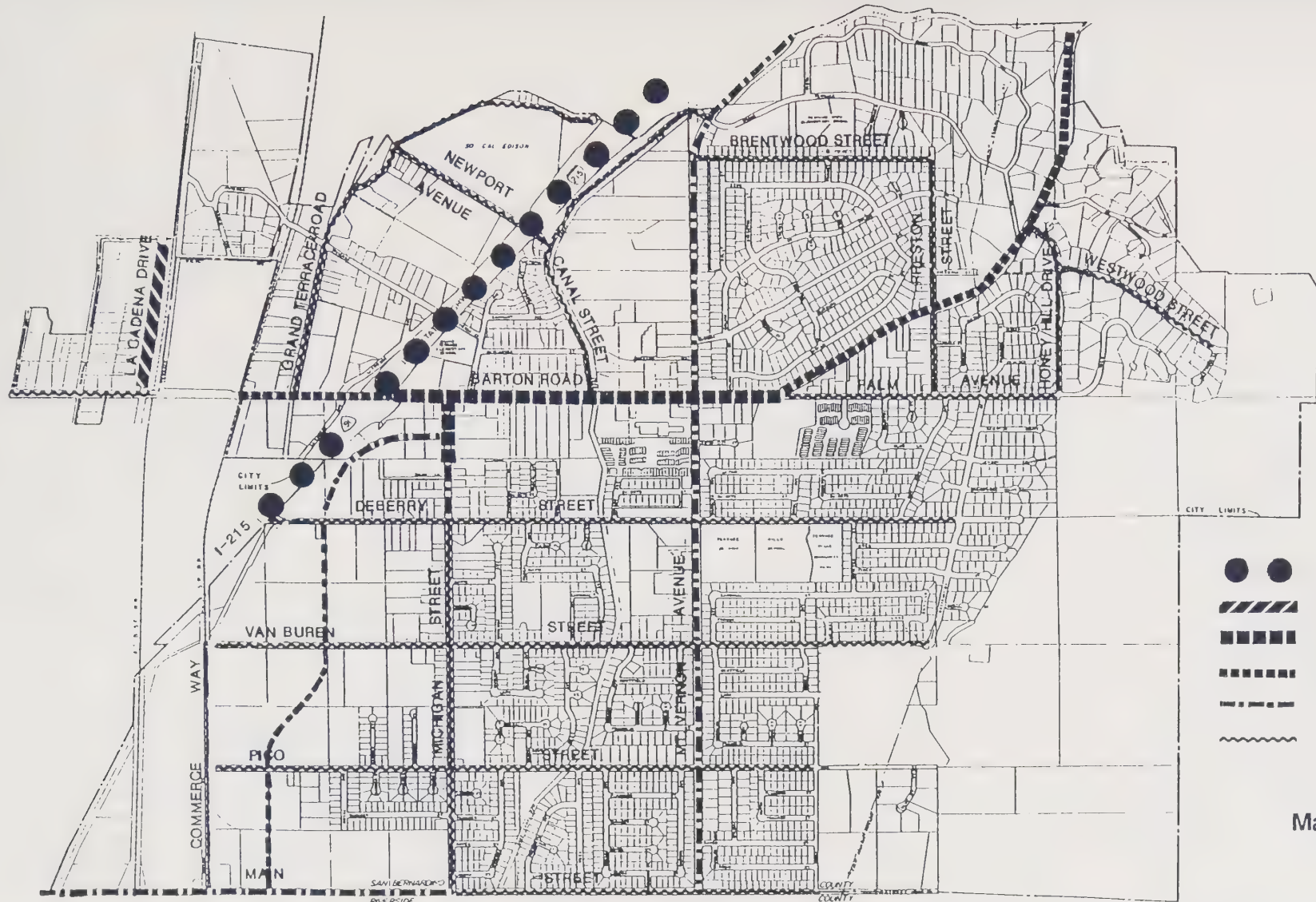
TABLE II-9
EXISTING AND FUTURE TRAFFIC VOLUMES

	(1)		(2)	(3)	(4)	(5)
LOCATION	EXISTING (1967)	EXISTING LOS	EXISTING + GROWTH (2010)	EXISTING + GROWTH + DEVEL. (2010)	PROPOSED ROAD LANES & CLASSIF.	LEVEL OF SERVICE (2010)
BARTON ROAD:						
AT SPRR BRIDGE	5959	A	8700	11310	MAJ	A
E/O I-215	19795	B	28900	42570	MODIFY MAJ	E
W/O MT. VERNON AVE	10616	B	15500	25120	MODIFY MAJ	B
E/O MT. VERNON AVE	14247	A	20800	31400	MODIFY MAJ	C
I-215:						
S.W./O BARTON ROAD	90137	C	117000	121200	FWY	D
BRENTWOOD STREET:						
E/O MT. VERNON AVE	1473	A	2150	2150	COLL	A
CANAL STREET:						
N/O BARTON ROAD	856	A	1250	2400	COLL	B
W/O MT. VERNON AVE	753	A	1100	2250	COLL	A
DEBERRY STREET:						
W/O MICHIGAN ST	527	A	770	5030	COLL	B
E/O MICHIGAN ST	1301	A	1900	5620	COLL	C
E/O MT. VERNON AVE	3630	A	5300	6950	COLL	C
GRAND TERRACE ROAD:						
N/O BARTON ROAD	479	A	700	1450	COLL	A
E/O MT. VERNON AVE	1027	A	1500	2660	COLL	B
HONEY HILL DRIVE:						
S/O BARTON ROAD	548	A	800	1360	COLL	A
LA CADENA DRIVE:						
N/O PALM AVE	13493	A	19700	21000	MAJ	C
N/O I-215	10670	A	15900	16350	MAJ	A
MICHIGAN STREET:						
S/O BARTON ROAD	7671	A	11200	27440	MODIFY MAJ	C
N/O VAN BUREN ST	3836	A	5600	6560	COLL	C
N/O PICO ST	3219	A	4700	5560	COLL	C
S/O PICO ST	1267	A	1850	3500	COLL	B
MAIN STREET:						
E/O TAYLOR ST	2295	A	3350	6200	SEC	A
E/O MICHIGAN ST	1159	A	1750	5530	COLL	C
E/O MT. VERNON AVE	171	A	250	2050	COLL	A

Table II-9 (Cont.)

MT. VERNON AVENUE:							
S/O PICO ST	3562	A	5200	6700	SEC	A	
N/O PICO ST	4110	A	6000	8710	SEC	A	
N/O VAN BUREN ST	6610	A	9650	15200	SEC	A	
N/O DEBERRY ST	11164	B	16300	23730	MAJ	D	
N/O BARTON ROAD	4110	B	6000	11935	SEC	A	
N/O GRAND TERRACE ROAD	4863	A	7100	12835	SEC	A	
NEWPORT AVENUE:							
NW/O CANAL ST	1096	A	1600	2350	COLL	B	
PALM AVENUE:							
E/O BARTON ROAD	1301	A	1900	2900	COLL	B	
PICO STREET:							
E/O TAYLOR ST	377	A	550	650	COLL	A	
E/O COMMERCE WAY	377	A	550	2050	COLL	A	
W/O MT. VERNON AVE	2123	A	3100	4810	COLL	B	
E/O MT. VERNON AVE	582	A	850	2400	COLL	A	
PRESTON STREET:							
N/O BARTON ROAD	1301	A	1900	2600	COLL	B	
VAN BUREN STREET:							
W/O MICHIGAN ST	274	A	400	4000	COLL	B	
W/O MT. VERNON AVE	1644	A	2400	6640	COLL	C	
E/O MT. VERNON AVE	1649	A	2700	3300	COLL	B	
WESTWOOD STREET:							
E/O HONEY HILL DRIVE	137	A	200	800	COLL	A	
COMMERCE WAY:							
N/O MAIN ST	0		0	14330	SEC	A	
N/O PICO ST	0		0	10130	SEC	A	
N/O VAN BUREN ST	0		0	7765	SEC	A	
N/O DEBERRY ST	0		0	6145	SEC	A	

- (1) Existing traffic volumes based on current traffic counts.
- (2) 1987 traffic volumes plus 2 percent growth per year over the life of the General Plan from development outside the city.
- (3) Traffic generated from new developments added to traffic volumes from column 2.
- (4) Proposed roadway configurations for buildout scenario.
- (5) Level of service using traffic volumes from column 3 and roadway configurations from column 4.



- ● Freeway
- ▨ ▨ Major Divided Highway
- ▣ ▣ Modified Major Highway
- ▤ ▤ Major Highway
- ▥ ▥ Secondary Highway
- ~~~~~ Collector

Figure VII - 4

Master Plan of Streets and Highways

City of Grand Terrace

0 1000 3000 FT



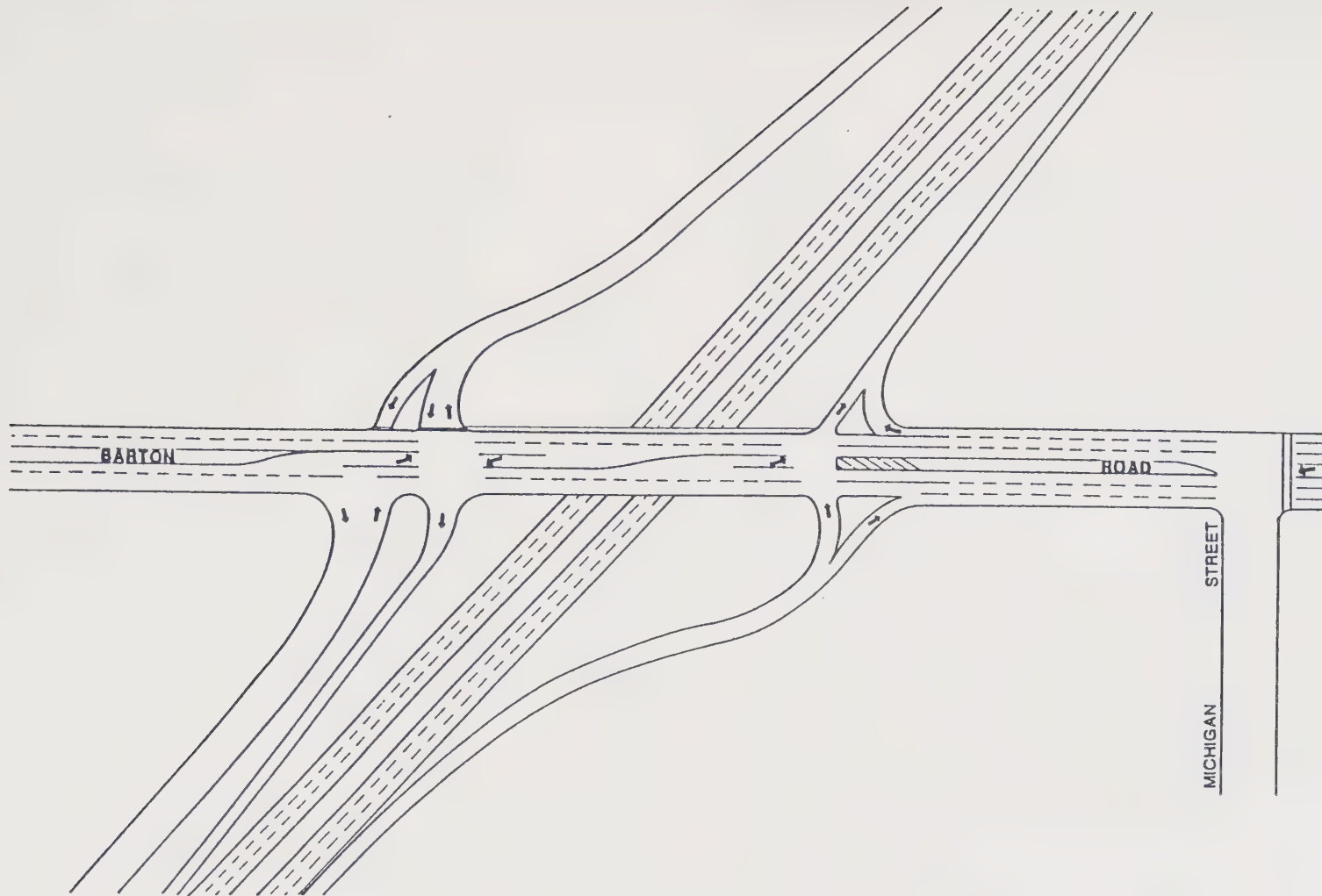


Figure II - 7
I-215 - Barton Road Interchange Concept

G. SCHOOLS

Because the schools within the District have been operating at or near capacity, the School District adopted Resolution 86-1 authorizing the Local Jurisdictions within the District to levy fees for the expansion of District facilities. The levy is based on square footage of both residential, commercial and industrial development.

The School District has no major plans to develop new facilities to serve students of Grand Terrace. The District intends to amend school district boundaries as new schools open outside of the Grand Terrace areas and/or accommodate students through the use of interim facilities.

Table II-10 displays the estimated additional students to be generated by the proposed Land Use plan. Table II-11 shows the distribution of students to the various grade levels and estimates of the total number of additional classrooms needed to house the students. It should be noted that the absorption of these students will be incremental over the life of the plan. Additionally, as communities develop and mature the generation factor will fluctuate. It is therefore, impossible to draw any conclusions from the maximum student generation figures because anticipating future development would be an estimate at best. The City should work with the District to monitor development in the future to assure adequate facilities are available as they are needed.

TABLE II-10

ADDITIONAL STUDENT GENERATION
BASED ON ANTICIPATED PROJECTED FUTURE
HOUSING UNITS

<u>Type</u>	<u>Number</u>	<u>Factor</u>	<u>Students</u>
Single-Family	1,060	.73	774
Multiple-Family	460	.53	<u>224</u>
		TOTAL	1,018

Source: Colton Unified School District
Willdan Associates

TABLE II-11
MAXIMUM ESTIMATED SCHOOL CHILDREN

Age	1986 Students ¹		Addl. Students at Max. Buildout ²		Total Students at Maximum Buildout 2000+
	Number	% of Total City Population	Number	Addl. Clsrm.	
Elementary (6 - 10 yrs.)	1,110	11.2%	539	18	1,649
Junior High (11 - 13 yrs.)	608	6.1%	162	5	770
High School (14 - 17 yrs.)	1,967 ³	19.9%	317	11	2,284
Subtotal (6 - 17 yrs.)	3,685	37.2%	1,018	34	4,703

¹ Based on 1986 school population figures.

² Assumes same percentage factors by age group as 1980 Census at maximum buildout of all residentially designated property, and an average of 30 students per classroom.

³ Includes entire Colton High School population, August 1986.

Source: Colton Unified School District

Willdan Associates

III ENVIRONMENTAL IMPACT REPORT

The Environmental Factors section (Section II) has included both the description of existing conditions and the description of impacts expected to occur as a result of implementation of the General Plan. Section III summarizes the most significant of these impacts and provides an index describing where discussions mandated by environmental law are contained. Quantification and amplification of certain specific impact factors is also included in this section.

A. DESCRIPTION OF PROJECT

The General Plan is the proposed project. The Draft General Plan has been published as a separate document and is being circulated for review and comment with the MEA/EIR.

B. DESCRIPTION OF ENVIRONMENTAL SETTING

The 1983 General Plan represented the first comprehensive planning program initiated by the City of Grand Terrace and, as such, established the City's first official statement of community development policy. Previously, the City had utilized the Grand Terrace Community General Plan adopted by San Bernardino County in June 1976. A program to update specific portions of the 1983 General Plan was initiated in 1987 in order to reflect a shift in community development policy and remedy some deficiencies in policy that had manifested themselves during the course of plan implementation.

The 1987 General Plan Update reflects two substantial changes in the land use policy of the City. The first of these changes is a reduction in land designated for future commercial use. The 1983 General Plan had originally designated a large area in the southwestern portion of the City for General Commercial use as a site for a regional shopping center. The shopping center project originally considered for this area did not prove to be a viable project as it was hampered by market and access deficiencies. The 1987 General Plan Update changes the land use designation of a large portion of this area to Light Industrial and designates the remainder of the area as General Commercial. The second significant change in land use policy involved a limitation on maximum permitted residential density and a reduction in area designated for Medium Density Residential development. Grand Terrace is predominately a low-density single-family residential community and has indicated its intention to retain its current residential character. The 1987 General Plan Update reduces the acreage designated for Medium Density Residential use and correspondingly increases the amount of area designated as Low Density Residential. These changes occur in the northwestern and north central portions of the City and are basically intended to preserve the low-density character of these areas. The 1987 General Plan Update also establishes a maximum density of 12 units per acre for

the Medium Density Residential classification. The General Plan had previously included provisions for density bonuses which would allow development to exceed the established maximum density of 9 units per acre.

Other significant features of the 1987 General Plan Update include roadway improvements described in the Circulation Element. Commerce Drive is proposed to be extended south to Main Street to serve future Light Industrial and General Commercial development in this area. The Circulation Element also describes recommended improvements to the Barton Road Interchange at I-215.

In addition to land use policy changes, the 1987 General Plan program updates statistical information, as necessary, and provides updated housing and population projections. Most of the background technical information of the 1983 General Plan has not required updating and remains in effect as originally prepared.

C. SIGNIFICANT ENVIRONMENTAL EFFECTS OF THE PROPOSED PROJECT - MITIGATION MEASURES: EFFECTS WHICH CANNOT BE AVOIDED.

The significant environmental effects¹ which will occur in Grand Terrace subsequent to the adoption of the new General Plan are the direct and indirect consequences of the City's potential growth from a population of 9,877 in 1987 to a maximum of 14,408 at full development, sometime after 2000. Accompanying this growth would be the potential for ultimate development totaling 138 acres of commercial uses, 116 acres of business park uses, 38 acres of office development, and 189 acres of light industry. This growth, although provided for and accommodated by the General Plan, is not an effect of the General Plan, per se. Should national and regional economic factors become more favorable, pressure for urban development will intensify.

Future large scale development will require the preparation of Specific Plans and it is anticipated that in most cases focused Environmental Impact Reports will have to be prepared on these Specific Plans.

Table III-1 shows the major significant environmental effects of the City's projected growth, including mitigation measures to help reduce negative impact. Some mitigation measures have been incorporated as policies in the General Plan; those indicated as "other" are measures which would be constructive, but which have not yet been adopted or approved.

¹ The State of California defines a "significant effect" as a substantial adverse effect, on physical conditions (land, air, water, minerals, flora, fauna, ambient noise) and on objectives of historic or aesthetic significance, para. 15040).

Mitigation measures appear to be available for all significant effects.

Specific areas of environmental concern include potential land use incompatibilities between existing residential areas and potential new commercial and industrial development. This is especially important for the areas adjacent to Barton Road and west of Michigan Avenue.

Quantification of impacts on infrastructure systems and circulation are included in the appropriate sections of the MEA.

D. ALTERNATIVES TO THE PROPOSED ACTION

Development of the draft General Plan particularly involving the western portion of the City, involved a process which included several public hearings and study sessions with the Grand Terrace Planning Commission and City Council and local property owners and residents. Various policy and land use alternatives were discussed at these meetings, beginning with an examination of the existing General Plan and proceeding to alternative types and intensity of development in several areas.

The primary issues of analyses, with regard to alternatives, involved three major areas: a) residential densities; and b) development of circulation system improvements involving the Barton Road/Interstate 215 (I-215) interchange and a new secondary highway to serve the southwest quadrant of the City. Resolution was reached in each of these areas through careful consideration of how land use designations and implementation policies could mitigate existing and potentially adverse environmental impacts.

The issue of residential densities focused on an overall deintensification, with specific emphasis on creating a reasonable ceiling for the medium density category, since none existed in the current General Plan. After extensive discussion, it was determined that, in the interest of maintaining the City's low-density, suburban and predominantly single-family character, the low-density category would change from 1 - 4 units per acre to 1 - 5 units per acre. In those predominantly single-family agricultural areas, where the existing medium-density zoning was permitting the intrusion of incongruous multi-family projects, a low-density designation is proposed, with corresponding zone changes to follow adoption of the General plan.

Medium-density was changed from 4 - 9± units per acre to 5 - 12 units per acre, with a density bonus to allow up to 15 units per acre, if the developer participates in the provision of additional public facilities that would provide benefit beyond the limits of the individual project.

The existing General Plan Low-Density Residential category is slightly superior to the proposed category, since it would permit a lower buildout population with correspondingly lower environmental impacts. The proposed Medium-Density Residential category is environmentally superior to both the existing (no density ceiling) and the 15 - 20 units/acre alternative that was considered.

The second major issue, improving the congested I-215/Barton Road interchange, involved examination of three alternatives. The first, the No-Project alternative, was the existing proposal in the Circulation Element to build an additional interchange at Van Buren Road. This was rejected as too costly and perhaps unnecessary, after further analysis indicated that there is insufficient demographic strength to support a regional-scale commercial center in that area. In addition, no specific policies and programs were provided to guide the implementation of the needed improvements. A second alternative involved a new interchange at Newport Avenue and I-215. This was rejected due to the exceptional topographical differences between the freeway and the adjacent land areas that would have required extensive earth movement and extremely expensive slope stabilization techniques. The third alternative consists of the proposed improvements to the Barton Road/I-215 interchange, with specific Circulation Element policies and programs to implement the proposed improvements. Such policies include coordination amongst the several governmental entities that are responsible for financing and constructing improvements, conceptual design recommendations and an action program. This is the environmentally superior of the three alternatives in that only modifications to an existing interchange are involved, as compared to the other, much more intensive approaches which propose completely new interchanges.

E. RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES OF MAN'S ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

The principal effect of the General Plan in the long-term will be the continued commitment of the area to urban uses. The proposed General Plan is intended to plan for development of the City's recreational, commercial, industrial, residential and public facility uses. Additional development in the area will consume non-renewable resources during the construction and life of the proposed uses. During construction, the use of building materials and energy resources will be largely irreversible and irretrievable. During the life of the plan, irretrievable resources consumed will include substantial amounts of energy, water, and other natural resources. Public facilities and services may eventually need to be expanded to serve the planning area.

The public investment required to build the proposed public improvements and the private investment required to build industrial, commercial and residential uses will commit future generations to urban uses of the area. As a result, future generations will experience the environmental consequences of the development and also receive the beneficial impacts.

F. ANY SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES WHICH WOULD BE INVOLVED IN THE PROPOSED ACTION SHOULD IT BE IMPLEMENTED

Significant, irreversible environmental changes due to population and employment growth and the corresponding development of vacant land and intensification of presently developed areas, will occur whether or not the proposed General Plan is implemented. If urban growth follows the patterns proposed in the draft General Plan, changes to the environment, while significant and irreversible, will be managed in a rational, environmentally sensitive manner. This would be difficult to ensure without following the guidelines in the draft General Plan.

G. GROWTH INDUCING IMPACTS

The General Plan does not directly induce growth; rather it accommodates growth by providing local policies to direct and manage that growth. The draft General Plan, in fact, represents an overall reduction in the potential buildout intensity of the City, compared to the present General Plan. This reduction in potential urban density will primarily result from reduced densities in the residential districts and from the proposed reclassification of substantial acreage in the southwest quadrant of the City from strictly General Commercial to General Commercial and Industrial.

Other growth inducing impacts could occur as the result of specific projects which are developed in accordance with the draft General Plan. These impacts would be addressed in supplemental environmental documentation, at the specific time a particular discretionary project is proposed.

H. EFFECTS FOUND NOT TO BE SIGNIFICANT

The State Environmental Checklist was adapted to table form for future use in scoping of Environmental Impact Reports. Each factor relevant to the City was evaluated for potential significance in each of several basic plan zones. Table III-6 shows this evaluation matrix.

I. COMMENTS AND RESPONSES TO THE DRAFT EIR

See Appendix H.

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I. COMMENTS AND RESPONSES TO THE DRAFT EIR

See Appendix H.

TABLE III-1

SUMMARY OF SIGNIFICANT ENVIRONMENTAL IMPACTS
AND MITIGATION MEASURES

MEA SECTION	GENERAL PLAN LAND USE POLICY MAP LOCATION	DESCRIPTION OF IMPACT	MITIGATION MEASURES	
			GENERAL PLAN	OTHER
Plants & Animals II B 5	Rural Land/Open Space.	Native plant and Animal Species Impacted by urban development.	Areas where such Impacts are likely to occur have been given a General Plan designation which signifi- cantly limits potential future development and supports maintenance of status quo conditions.	
Noise II A 5	Developed Areas Adjacent to Free- ways and the Rail- road.	A few housing units are within the 65 dBA noise impact contour.	Policies limit the amount of residentially designated property within the potential noise impact areas.	
Hazards II A 4, II A 6	Developed Areas, Industrial Areas.	Potential adverse im- pacts from toxic sub- stances, hazardous wastes, and natural disasters.	Policies call for City monitoring of businesses and locales which have a potential for introducing substances or hazardous materials into the environment.	City Disaster Preparedness Plan.
Traffic II F	Community-wide interface between developed areas and PUD/SP areas.	Increase in daily vehicle trips will occur in the event one or more major residential, commercial, or industrial develop- ments are constructed.	Provisions for adequate vehicle circulation in Specific Plan submittal. Inclusion of freeway access alternatives and circulation studies as part of the General Plan program.	Specific Plan re- view and environ- mental documentation requires consid- eration of potential vehicle circulation impacts.

TABLE III-1 (Cont.)

MEA SECTION	GENERAL PLAN LAND USE POLICY MAP LOCATION	DESCRIPTION OF IMPACT	MITIGATION MEASURES	
			GENERAL PLAN	OTHER
Water System II E 1	Community-wide regional.	Potential population increases, as well as additional commercial and industrial development, would increase water demand.	Water conservation, both local and regional. Potential for aquifer recharge. Increased coordination with local water purveyors.	Reexamine water needs in light of potential population increases as new development is proposed. Specific Plan review.
Sewerage System	Community-wide.	Potential need for additional collection and treatment facilities to accommodate population increase.	Inclusion of sewer system improvements in City Capital Improvements Program. Policy for integration of General Plan proposals in sewer master planning. Policy of Coordination with adjacent agencies.	Examine sewer needs based on Sewer Master Plan recommendations. Specific Plan Review process to assess potential population increases as new development is proposed.
Storm Drain System II E 7	Community-wide.	Need for additional storm drainage facilities to accommodate potential population increase.	Inclusion of storm drainage facilities City Capital Improvement Program.	Specific Plan Review.
Public Facilities II O 1 thru 6, II 11	Community-wide.	Need for additional police, fire and City administration, increased number of school children.	In-lieu fees for new schools, encouragement of private recreation facilities, coordination with County Police and Fire Departments for increased service.	Specific Plan Review, possible use of user fees.

APPENDICES

APPENDIX A

Air Quality Standards and Health Effects

TABLE I
AMBIENT AIR QUALITY STANDARDS

AIR POLLUTANT	CALIFORNIA		PRIMARY	FEDERAL SECONDARY	METHOD ^{a)}
	CONCENTRATION	DISTRICT METHOD			
Ozone	0.10 ppm, 1-hr. avg.	U.V. Photometry	0.12 ppm, 1-hr. avg.	0.12 ppm, 1-hr. avg.	Chemiluminescent
Carbon Monoxide	10 ppm, 12-hr. avg. 40 ppm, 1-hr. avg.	Non-dispersive Infra-red Spectrophotometry	9 ppm, 8-hr. avg. 35 ppm, 1-hr. avg.	9 ppm, 8-hr. avg. 35 ppm, 1-hr. avg.	Non-dispersive Infra-red Spectrophotometry
Nitrogen Dioxide	0.25 ppm, 1-hr. avg.	Gas Phase Chemiluminescence	0.05 ppm, annual avg.	0.05 ppm, annual avg.	Gas Phase Chemiluminescence
Sulfur Dioxide	0.05 ppm, 24-hr. avg. with Ozone > 0.10 ppm, 1-hr. avg. or TSP > 100 ug/m ³ , 24-hr. avg. 0.5 ppm, 1-hr. avg.	Pulsed Fluorescence	0.03 ppm, annual avg. 0.14 ppm, 24-hr. avg.	0.5 ppm, 24-hr. avg.	Para-rosaniline
Total Suspended Particulate (TSP)	50 ug/m ³ , annual geometric mean 100 ug/m ³ , 24-hr. avg.	High Vol. Sampling	75 ug/m ³ , annual geometric mean 260 ug/m ³ , 24-hr. avg.	60 ug/m ³ , annual geometric mean 150 ug/m ³ , 24-hr. avg.	High Vol. Sampling
Sulfates	25 ug/m ³ , 24-hr. avg.	High Vol. Sampling Methyl-thymol Blue	-	-	-
Lead	1.5 ug/m ³ , 30-day avg.	High Vol. Sampling x-ray fluorescence	1.5 ug/m ³ , calendar quarter	1.5 ug/m ³ , calendar quarter	High Vol. Sampling Atomic absorption Spectrophotometry
Hydrogen Sulfide	0.03 ppm, 1-hr. avg.	Cadmium hydroxide Stractan	-	-	-
Non-Methane Hydrocarbon	-	-	0.24 ppm, 3-hr. avg. (6-9 a.m.)	0.24 ppm, 3-hr. avg. (6-9 a.m.)	Gas Chromatography (FID)
Vinyl Chloride	0.010 ppm, 24-hr. avg.	Gas Chromatography	-	-	-
Ethylene	0.10 ppm, 8-hr. avg. 0.50 ppm, 1-hr. avg.	-	-	-	-
Visibility Reducing Particles	In sufficient amount to reduce the prevailing visibility to less than 10 miles at relative humidity less than 70%, 1 obs.	-	-	-	-

^{a)}Reference method as described by the federal government. An equivalent method of measurement may be used as approved by the federal government.

TABLE II
EPISODE CRITERIA

AIR POLLUTANT	SQAQMD AND CALIFORNIA			FEDERAL		
	STAGE 1	STAGE 2	STAGE 3	STAGE 1	STAGE 2	STAGE 3
Ozone	0.26 ppm, 1-hr. avg.	0.35 ppm, 1-hr. avg.	0.50 ppm, 1-hr. avg.	-	-	0.50 ppm, 1-hr. avg.
Carbon Monoxide	40 ppm, 1-hr. avg. 20 ppm, 12-hr. avg.	75 ppm, 1-hr. avg. 35 ppm, 12-hr. avg.	100 ppm, 1-hr. avg. 50 ppm, 12-hr. avg.	15 ppm, 8-hr. avg.	30 ppm, 8-hr. avg.	40 ppm, 8-hr. avg.
Nitrogen Dioxide	-	-	-	0.60 ppm, 1-hr. avg. 0.15 ppm, 24-hr. avg.	1.20 ppm, 1-hr. avg. 0.30 ppm, 24-hr. avg.	1.60 ppm, 1-hr. avg. 0.40 ppm, 24-hr. avg.
Sulfur Dioxide	0.50 ppm, 1-hr. avg. 0.20 ppm, 24-hr. avg.	1.00 ppm, 1-hr. avg. 0.70 ppm, 24-hr. avg.	2.00 ppm, 1-hr. avg. 0.90 ppm, 24-hr. avg.	-	-	-
Sulfur Dioxide/ Particulate Matter Combined	-	-	-	65,000*, 24-hr. avg.	261,000*, 24-hr. avg.	393,000*, 24-hr. avg.
Particulate Matter	-	-	-	375 ug/m ³ , 24-hr. avg.	625 ug/m ³ , 24-hr. avg.	875 ug/m ³ , 24-hr. avg.
Sulfates**	25 ug/m ³ , 24-hr. avg. combined with ozone > 0.20 ppm, 1-hr. avg.			-	-	-
Actions to be Taken	Health advisory to a) Persons with respiratory and coronary disease. b) School officials in order to curtail students' participa- tion in strenuous activities. First steps in abatement plans.	Intermediate Stage. Abatement actions taken to reduce concentration of pollutant at issue.	Mandatory abatement measures. Extensive actions taken to prevent exposure at indicated levels. State can take action if local efforts failed.	Open burning prohib- ited. Reduction in vehicle operation requested. Industrial curtailment.	Incinerator use prohibited. Reduction in vehicle operation required. Further industrial curtail- ment.	Vehicle use prohib- ited. Industry shut down or curtailment. Public activities ceased.

*Product of sulfur dioxide (ppm), particulate matter (ug/m³) and a factor (2620).

**Episodes based upon these criteria are not classified according to stages.

TABLE III
HEALTH EFFECTS OF AIR POLLUTANTS

POLLUTANT	CONCENTRATION/ EXPOSURE TIME	OBSERVED HEALTH EFFECTS AT SPECIFIED CONCENTRATIONS	1981 ANNUAL HIGH CONCENTRATION IN SOGAB	
			CONCENTRATION/ AVERAGING TIME	LOCATION, DATE
Ozone	0.25 ppm/1 hour	Increased frequency of asthma attacks. ^{1,2*}		
	0.30 ppm/1 hour	Cough, chest discomfort and headache. ³	0.37 ppm/1 hour	Norco, Prado Park 8/26/81
	0.37 ppm/2 hour	Decline in pulmonary function in healthy individuals. ⁴		
Carbon Monoxide	15-18 ppm/8 hour	Can cause decreased exercise capacity in patients with angina pectoris. ^{6,7,8}	25.2 ppm/8 hour	Lynwood
	50 ppm/1 hour	Can cause impairment of time interval estimation and visual function. ⁹	31 ppm/1 hour	Lynwood 1/6/81
Nitrogen Dioxide	0.11 ppm/few minutes	Sensory responses may be elicited or altered. ¹⁰		
	Daily peak exceeds 0.45 ppm on 10% of days for 12 months.	May cause some impairment of pulmonary function and increased incidence of acute respiratory disease. ¹⁰	0.45 ppm/1 hour	Los Angeles 12/7/81
	1.50 ppm/short term	Can cause difficulty in breathing in healthy as well as bronchitic groups. ¹⁰		
Lead	3.2 ug/m ³ /7 weeks	Increase in blood lead levels which may impair or decrease hemoglobin synthesis. ¹¹	1.91 ug/m ³ monthly average	Lennox 2/81
Sulfur Dioxide/ Total Suspended Particulate (TSP)	0.037 ppm SO ₂ annual average association with 100 ug/m ³ smoke**	May cause higher frequencies of acute respiratory symptoms and diminished ventilatory function in children. ¹²	0.010 ppm SO ₂ annual average combined with 97 ug/m ³ TSP/ annual average	Lennox

*Superscripts refer to data sources shown in References to Health Effects.

**Smoke is a British measure of particulate matter concentration.

APPENDIX B

Soils Survey of Grand Terrace



[Absence of information indicates that a determination was not made or that it would not be applicable. The symbol > means made up of two or more kinds of soil. The soils in such mapping units have different properties and limitations and for this reason

TABLE 4.—Estimated soil properties

Soil series and map symbols	Depth to bedrock or hardpan	Depth from surface of typical profile	(Typical profile) USDA texture	Classification		Coarse fraction greater than 3 inches	Percentage less than 3 in. passing sieve—	
				Unified	AASHTO		No. 4 (4.7 mm)	No. 10 (2.0 mm)
*Cieneba: GnD, Co, Cr. For properties of Friant soils in Co, refer to Friant series.	Feet 1-1½	Inches 0-14 14	Sandy loam. Weathered granitic rock.	SM	A-2	0-10	90-100	90-100
Greenfield: GtC, GtD	>5	0-16 16-50 50-60	Sandy loam. Fine sandy loam. Sandy loam.	SM SM SM	A-2 A-4 A-2		95-100 95-100 95-100	90-100 85-100 90-100
GuD	>5	0-16 16-50 50-60	Cobbly sandy loam. Fine sandy loam. Sandy loam.	SM SM SM	A-2 A-4 A-2	25-40	90-100 95-100 95-100	85-95 85-100 90-100
Hanford: HaC, HaD, HbA	>5	0-60	Sandy loam.	SM	A-2		100	90-100
Monserate: MoC	2½-3	0-10 10-30 30-45 45-60	Sandy loam. Clay loam. Indurated hardpan. Coarse sandy loam.	SM CL CL SM	A-2, A-4 A-6 A-2		100 100 95-100	100 100 90-100
Psammets and Fluvents, frequently flooded: Ps. Properties are too variable to be estimated.								
Ramona: RmC, RmD, RmE2	>5	0-23 23-54 54-60	Sandy loam and fine sandy loam. Loam, clay loam and sandy clay loam. Sandy loam.	SM SC or CL SM	A-2 or A-4 A-6 A-2		100 100 95-100	95-100 95-100 95-100
San Emidio: SaD, ScA, ScC	>5	0-60 0-16 16-60	Fine sandy loam. Gravelly sandy loam. Fine sandy loam.	SM SM SM	A-4 A-2 A-4		100 75-90 100	100 60-75 100
San Timoteo: SgF2	2-2½	0-24 24	Loam. Soft sandstone.	CL-ML or CL	A-4		100	95-100
Saugus: ShF	3-4	0-18 18-40 40	Sandy loam. Loam. Weakly consolidated loamy sediment.	SM ML or CL-ML	A-2 A-4		100 100	100 100
Tujunga: TuB	>5	0-60	Loamy sand and coarse sand.	SM or SP-SM	A-1	0-5	100	55-100
TvC	>5	0-36 36-60	Gravelly loamy sand. Coarse sand.	SM or SP-SM SP-SM	A-1, A-2 A-1	0-5 0-5	70-80 100	55-75 55-100
Van Nuys	2-3¼	0-38 38	Coarse sandy loam and sandy loam. Weathered granitic rock.	SM	A-2		55-100	75-95

* NP means nonplastic.

* It is assumed that a loam texture will result from mixing stratified layers.

significant in engineering

more than; the symbol < means less than. An asterisk in the first column indicates that at least one mapping unit in the series is it is necessary to follow carefully the instructions for referring to the other series given in the first column of this table]

Percentage less than 3 in. passing sieve—Cont.		Liquid limit	Plasticity index	Permeability	Available water capacity	Reaction	Salinity	Shrink-swell potential
No. 40 (0.42 mm)	No. 200 (0.075 mm)							
		Percent		Inches per hour	Inches per inch of soil	pH	Mmhos per cen- timeter at 25°C	
50-65	25-35	NP	NP	6.0-20	0.14-0.15	6.1-7.3		Low.
60-75	20-30	NP	NP	2.0-6.0	0.11-0.13	6.1-7.3	0-2	Low.
70-85	35-50	15-25	0-5	2.0-6.0	0.13-0.15	6.1-7.3	0-2	Low.
60-75	20-30	NP	NP	2.0-6.0	0.11-0.13	6.6-7.8	0-2	Low.
60-75	20-30	NP	NP	2.0-6.0	0.10-0.12	6.1-7.3		Low.
70-85	35-50	15-25	0-5	2.0-6.0	0.13-0.15	6.1-7.3		Low.
60-75	20-30	NP	NP	2.0-6.0	0.11-0.13	5.6-7.8	0-2	Low.
60-75	20-30	NP	NP	2.0-6.0	0.12-0.13	6.1-7.8	0-2	Low.
60-80	25-50	NP	NP	2.0-6.0	0.10-0.15	6.1-7.3	0-2	Low.
90-100	70-80	25-40	15-25	0.2-0.6	0.16-0.20	6.6-7.8	0-2	Moderate.
40-60	25-35	NP	NP	<0.06 2.0-6.0		7.4-8.4	0-2	Low.
60-80	25-50	15-25	0-5	2.0-6.0	0.10-0.12	5.6-6.5		Low.
85-100	40-60	30-40	10-20	0.2-0.6	0.15-0.17	6.6-7.8		Moderate.
65-75	25-35	NP	NP	2.0-6.0	0.10-0.12	6.6-7.8		Low.
70-85	35-50	20-30	NP-5	2.0-6.0	0.12-0.14	7.4-8.4	0-2	Low.
45-55	20-30	NP	NP	2.0-6.0	0.10-0.12	7.4-8.4	0-2	Low.
70-85	35-50	20-30	NP-5	2.0-6.0	0.12-0.14	7.9-8.4	0-2	Low.
85-95	60-75	20-30	5-10	0.6-2.0	0.15-0.17	7.4-8.4	0-2	Low.
60-70	25-35	NP	NP	2.0-6.0	0.10-0.12	6.1-7.3		Low.
85-95	55-70	20-30	5-10	0.6-2.0	0.15-0.17	6.1-7.3		Moderate.
25-50	5-20	NP	NP	6.0-20	0.06-0.07	6.1-7.3		Low.
40-60	10-20	NP	NP	6.0-20	0.05-0.07	6.1-7.3		Low.
25-50	5-10	NP	NP	6.0-20	0.06-0.07	6.1-7.3		Low.
50-75	15-35	NP	NP	2.0-6.0	0.10-0.12	5.6-7.3		Low.

Note - Ps (No. 5) properties too variable to be estimated.

[An asterisk in the first column indicates that at least one mapping unit in the series is made up of two or more kinds of soil. The soils instructions for referring to other series

TABLE 3.—Interpretations of

NO.	Soil series and map symbols	Degree and kind of limitations for—				Suitability as a source of—	
		Dwellings without basements	Septic tank absorption fields	Shallow excavations	Sanitary landfills (area type)	Cover material for area-type landfills	Topsoil
1.	*Canebrake: CnD, Cp, Cr. For interpretations of Friant soils in Cp, refer to Friant series.	Severe: shallow to bedrock.	Severe: steep; shallow to bedrock.	Severe: steep; shallow to bedrock.	Severe: steep; shallow to bedrock.	Poor: weathered granitic bedrock at a depth of 12 to 20 inches.	Poor: borrow areas difficult to reclaim.
2.	Greenfield: GtC, GtD GuD	Slight for GtC. Moderate for GtD: slopes.	Slight for GtC. Moderate for GtD: slopes.	Slight for GtC. Moderate for GtD: slopes.	Severe: moderately rapid permeability.	Good.	Good. Fair for GtD: slopes.
		Moderate: slopes.	Moderate slopes.	Moderate: cobbles in upper 12 inches.	Severe: moderately rapid permeability.	Fair: cobbles in upper 12 to 18 inches; slopes.	Poor: cobbles in upper 12 to 18 inches.
3.	Hanford: HaC, HaD, HbA.	Slight for HaC and HbA. Moderate for HaD: slopes.	Slight for HaC and HbA. Moderate for HaD: slopes.	Slight for HaC and HbA. Moderate for HaD: slopes.	Severe: moderately rapid permeability.	Good for HaC and HbA. Fair for HaD: slopes.	Good for HbA. Fair for HaC and HaD: slopes.
4.	Monserate: MoC	Moderate: hardpan of silica at a depth of 30 to 45 inches.	Severe: very slow permeability.	Severe: hardpan of silica at a depth of 30 to 45 inches.	Slight.	Fair: about 10 inches of sandy loam over 20 inches of clay loam; hardpan of silica below.	Fair in upper 30 inches; sandy loam and clay loam.
5.	Psammets and Fluvents, frequently flooded: Ps Too variable for interpretation.						
6.	Ramona: RmC, RmD, RmE2.	Slight for RmC: SM material in upper 3 inches. Moderate for RmD: slopes. Severe for RmE2: slopes.	Severe: moderately slow permeability.	Slight for RmC: clay loam at a depth of 32 to 48 inches. Moderate for RmD: slopes. Severe for RmE2: slopes.	Slight for RmC. Moderate for RmD: slopes. Severe for RmE2: slopes.	Fair for RmC, RmD: sandy loam in upper 23 inches; clay loam below. Poor for RmE2: slopes.	Good for RmC in upper 32 inches. Fair for RmD: slopes. Poor for RmE2: slopes.
7.	San Emigdio: SaD, SbC, ScA, ScC.	Slight for SbC, ScA, ScC. Moderate for SaD: slopes.	Slight for SbC, ScA, ScC. Moderate for SaD: slopes.	Slight for SbC, ScA, ScC. Moderate for SaD: slopes.	Severe: moderately rapid permeability.	Good for ScA, ScC. Fair for SaD: slopes. Fair for SbC: gravelly sandy loam in upper 16 inches.	Good for SbC in upper 16 inches; gravelly. Fair for SaD, ScC: slopes.
8.	San Timoteo: SgF2	Severe: slopes.	Severe: slopes; moderate depth to bedrock.	Severe: slopes; moderate depth to bedrock.	Severe: slopes.	Poor: slopes; sandstone at a depth of 24 to 30 inches.	Poor: borrow areas are difficult to reclaim.
9.	Saugus: ShF	Severe: slopes.	Severe: slopes.	Severe: slopes.	Severe: slopes.	Poor: slopes.	Poor: slopes.
10.	Turanga: TuB TvC	Slight.	Slight.	Severe: poor sidewall stability.	Severe: rapid permeability.	Poor: loamy sand and coarse sand throughout.	Poor: sandy throughout.
		Slight.	Slight.	Severe: poor sidewall stability.	Severe: rapid permeability.	Poor: gravelly loamy sand in upper 36 inches; coarse sand below.	Poor: gravelly loamy sand.
11.	Vista: Vr	Severe: slopes.	Severe: slopes; moderate depth to bedrock.	Severe: slopes; moderate depth to bedrock.	Severe: slopes.	Poor: slopes.	Poor: borrow areas difficult to reclaim.

Suitability as a source of—			Soil features affecting—			Hydrologic soil group
Sand	Gravel	Road fill	Water retention		Irrigation	
			Embankments, dikes, and levees	Reservoir areas		
Unsuited: weathered granite bedrock at a depth of 12 to 20 inches.	Unsuited: weathered granite bedrock at a depth of 12 to 20 inches.	Poor: weathered granitic bedrock at a depth of 12 to 20 inches.	Bedrock at a depth of 12 to 20 inches.	Steep; rapid permeability; weathered granitic rock at a depth of 12 to 20 inches.	Shallow to bedrock; slopes.	B
Poor: fines.....	Poor: fines.....	Good in upper 16 inches. Fair at a depth of 16 to 50 inches. Good for A-4 below.	Medium strength; fair to good compaction characteristics; subject to piping.	Moderately rapid permeability; strong slopes in some places.	High available water capacity; moderately rapid permeability.	B
Poor: fines.....	Poor: fines.....	Good in upper 16 inches; some cobbles in upper 12 to 18 inches. Fair at a depth of 16 to 50 inches. Good for A-4 below.	Medium strength; fair to good compaction characteristics; subject to piping; exclusion of cobbles longer than 6 inches is needed.	Moderately rapid permeability; strong slopes.	High available water capacity; moderately rapid permeability; cobbles in upper 12 inches.	B
Poor: fines.....	Poor: fines.....	Good.....	Medium strength; medium to low permeability; subject to piping.	Moderately rapid permeability; strong slopes in some places.	Moderate available water capacity; moderately rapid permeability.	B
Unsuited.....	Unsuited.....	Poor for A-2, A-4; hardpan of silica at a depth of 30 to 45 inches.	Medium strength; low permeability; good compaction.	Very slow permeability.	Moderately slow permeability over hardpan at a depth of 30 inches.	C
Unsuited.....	Unsuited.....	Fair: A-6 material.....	Medium to low strength; subject to piping; medium to low permeability.	Moderately slow permeability in subsoil; steep in some places.	Moderately slow permeability; steep in some places.	B
Poor: fines.....	Poor: fines.....	Good.....	Medium strength; medium to low permeability; medium to high susceptibility to piping.	Moderately rapid permeability.	Moderate to high available water capacity; moderately rapid permeability.	B
Unsuited.....	Unsuited.....	Poor: slopes; sandstone at a depth of 24 to 30 inches.	Sandstone at a depth of 24 to 30 inches.	Sandstone at a depth of 24 to 30 inches; steep.	Slopes; sandstone at a depth of 24 to 30 inches.	C
Unsuited.....	Unsuited.....	Poor: slopes.....	Medium to low strength; medium to low permeability to piping; steep slopes.	Moderate permeability; weakly consolidated sediment at a depth of 30 to 40 inches; steep.	Slopes.....	B
Fair: fines.....	Fair: fines.....	Good.....	Medium strength; low to medium compressibility; medium to high permeability.	Rapid permeability.....	Low available water capacity; rapid intake.	A
Unsuited.....	Unsuited.....	Poor: granitic rock at a depth of 24 to 40 inches; slopes.	Granitic bedrock at a depth of 24 to 40 inches; slopes.	Steep; bedrock at a depth of 24 to 40 inches.	Steep; bedrock at a depth of 24 to 40 inches.	C

Note - Ps (No. 5) properties too variable to be estimated.

Soils of the Alluvial Valley Floors, Fans, and Terraces

This region is made up of the alluvial valley floors, fans, and terraces that cover broad areas throughout the central part of the survey area. It extends eastward from Los Angeles County, near Chino, to the general vicinity of Yucaipa. Most of the northern boundary is in Bernardino National Forest.

Elevation in this region ranges from 600 to 3,400 feet. The average annual rainfall is 12 to 18 inches. Annual grasses, forbs, and some chamise make up the plant cover. The six soil associations in this region make up about 82 percent of the survey area.

Hanford-Greenfield-San Emigdio association

Nearly level to moderately sloping, well-drained, very deep soils on alluvial valley floors and fans

Areas of this soil association are near San Bernardino, Redlands, Yucaipa, and Upland. The soils formed in alluvium derived mainly from granitic rock. Slopes range from 0 to 9 percent. Elevation ranges from 600 to 3,400 feet. The average annual rainfall is 12 to 16 inches, the mean annual temperature ranges from 59° to 65° F, and the frost-free season is 230 to 280 days. Vegetation consists mainly of annual grasses and forbs, but chamise grows in scattered areas.

This association makes up about 18 percent of the survey area. Hanford soils make up about 70 percent of the association, Greenfield soils about 15 percent, and San Emigdio soils about 10 percent, and minor soils about 5 percent.

Hanford soils have a surface layer of pale-brown, slightly acid sandy loam. Below this is pale-brown or very pale brown, neutral sandy loam.

Greenfield soils have a surface layer of pale-brown, slightly acid sandy loam. Their subsoil is yellowish-brown and light-brown, slightly acid, fine sandy loam.

The underlying material is light yellowish-brown, neutral sandy loam.

San Emigdio soils have a surface layer of light brownish-gray, moderately alkaline fine sandy loam. These soils are calcareous throughout.

Minor soils in this association are in the Oak Glen, Metz, and Monserate series.

The soils of this association are used for irrigated and dryland crops. They also are used for limited grazing. Some areas are used for homesites and related uses.

Tujunga-Soboba association

Nearly level to moderately sloping, somewhat excessively drained and excessively drained, very deep soils on alluvial valley floors

Soils in this association are near Fontana, Etiwanda, Cucamonga, and Ontario. They formed in alluvium derived from granitic rock. Slopes range from 0 to 9 percent. Elevation ranges from 900 to 2,200 feet. The average annual rainfall is 12 to 16 inches, the mean annual temperature ranges from 61° to 65° F, and the frost-free season is 230 to 280 days. Vegetation consists mainly of annual grasses and forbs.

This association makes up about 41 percent of the survey area. Tujunga soils make up about 60 percent of the association; Soboba soils about 30 percent; and Psamments and Fluvents, frequently flooded, 10 percent.

Tujunga soils are somewhat excessively drained and have a surface layer of brown, slightly acid loamy sand that is gravelly in places. Below this is pale-brown, slightly acid coarse sand.

Soboba soils are excessively drained and have a surface layer of grayish-brown, slightly acid, stony or gravelly loamy sand. Below this is brown, slightly acid very stony loamy sand and very pale brown, neutral very stony sand.

The Psamments and Fluvents, frequently flooded, are in streambeds of the Santa Ana River and other large creeks and their tributaries.

The soils of this association are used mainly for irrigated crops. They also are used for dryland crops, limited grazing, and as a source of sand, gravel, and road fill.

5. Ramona-Chualar-Sorrento association

Nearly level to moderately sloping, well-drained, very deep soils on alluvial fans and terraces

Areas of this soil association are near Redlands and Yucaipa and south of Montone. The soils formed in alluvium derived from granitic and sedimentary rocks. Slopes range from 0 to 9 percent. Elevation ranges from 600 to 3,000 feet. The average annual rainfall is 12 to 18 inches, the mean annual temperature ranges from 59° to 65° F, and the frost-free season is 230 to 300 days. Vegetation consists mainly of annual grasses and forbs, but chamise grows in some areas.

This association makes up about 6 percent of the survey area. Ramona soils make up about 70 percent of the association, Chualar soils about 20 percent, and Sorrento soils about 10 percent.

Ramona soils have a surface layer of brown, slightly acid sandy loam or fine sandy loam. Their subsoil is brown and yellowish-red, neutral loam and clay loam and reddish-yellow, neutral sandy clay loam. The underlying material is brownish-yellow, neutral sandy loam.

Chualar soils have a surface layer of dark grayish-brown, slightly acid clay loam. Their subsoil is dark grayish-brown, neutral to moderately alkaline clay loam. The underlying material is light-gray, moderately alkaline calcareous loam.

Sorrento soils have a thick surface layer of dark grayish-brown, neutral and mildly alkaline clay loam. Below this is brown, moderately alkaline clay loam that is calcareous in the lower part.

Minor soils in this association are in the Monserate and Greenfield series.

The soils of this association are used mainly for irrigated and dryland crops.

6. Ramona association

Strongly sloping to moderately steep, well-drained, very deep soils on terraces

Areas of this soil association are south of Yucaipa along the county line. The soils formed in alluvium derived from granitic rock. Slopes range from 9 to 30 percent. The elevation ranges from 1,400 to 3,000 feet. The average annual rainfall is 12 to 18 inches, the mean annual temperature ranges from 59° to 62° F, and the frost-free season is 230 to 290 days. Vegetation consists mainly of annual grasses and forbs.

This association makes up about 3 percent of the survey area. Ramona soils make up about 80 percent of the association, and minor soils make up 20 percent.

Ramona soils have a surface layer of brown, slightly acid sandy loam or fine sandy loam. Their subsoil is brown and yellowish-red, neutral loam and clay loam and reddish-yellow, neutral sandy clay loam. The substratum is brownish-yellow, neutral sandy loam. These soils are eroded in many places.

The minor soils in this association are in the Greenfield, Hanford, and Saugus series.

Most areas of this association are used for dryland small grain and pasture. Some small areas are used for citrus crops.

Soils of the Uplands

This region consists of upland foothills, mountains, and ridges. The areas are in the southern foothills of the San Gabriel and San Bernardino Mountains along the San Bernardino National Forest, the Chino Hills, and the Crafton Hills; and near Riverside County on Mount San Timoteo Wash. The soils formed in material weathered from granitic, sedimentary, and metamorphosed rock. Rocks crop out in many places.

Elevation in this region ranges from about 900 to 6,000 feet. The average annual rainfall is 10 to 25 inches. The vegetation consists mainly of annual grasses and forbs and some chamise or manzanita shrub. There are a few scattered oak and pine trees and some perennial grasses. Growing seasons at higher elevations are apt to be somewhat shorter than those at lower elevations. The three soil associations in this upland area make up about 18 percent of the survey area.

Cieneba-Tollhouse-Friant association

Deep, excessively drained and somewhat excessively drained, shallow soils over schist and granite; on foothills and mountains

Areas of this soil association are along the southern foothills of the San Gabriel and San Bernardino Mountains, the Crafton Hills near Zanja and Pisgah Peaks, and in the vicinity of Blue Mountain. The soils formed in place in material weathered from granitic and mica schist. Most slopes range from 30 to 50 percent. Elevation ranges from 1,000 to 6,000 feet. The average annual rainfall is 12 to 25 inches, the mean annual temperature ranges from 61° to 65° F, and the frost-free season is 230 to 280 days. At higher elevations of 4,000 to 6,000 feet, the mean annual temperature ranges from 52° to 57° F, and the frost-free season is 160 to 210 days. The vegetation is mainly annual grasses and forbs and scattered shrubs of chamise and manzanita. Some oak, pine, and perennial grasses grow at higher elevations.

This association makes up about 9 percent of the survey area. Cieneba soils make up about 70 percent of the association, Tollhouse soils about 20 percent, Friant soils 8 percent, and minor soils about 2 percent. Cieneba soils are somewhat excessively drained and are slightly acid and neutral throughout. They have a surface layer of brown sandy loam. Below this is pale brown sandy loam. Depth to weathered granitic rock is between 12 and 20 inches. Cieneba soils are closely intermingled with areas of Rock outcrop.

Tollhouse soils are excessively drained and are slightly acid throughout. They have a surface layer of dark grayish-brown and brown sandy loam. Below this is somewhat weathered granitic rock between depths of 10 and 20 inches.

Friant soils are somewhat excessively drained and are slightly acid or neutral throughout. They have a surface layer of dark-brown and brown fine sandy loam. This is underlain by hard mica schist at a depth

of 10 to 18 inches. Friant soils are intermingled with areas of Rock outcrop.

Minor soils in this association are in the Vista and Crafton series.

The soils of this association are used mainly for watershed purposes. They are sometimes used for range or pasture or for homesites.

8. Saugus-Fontana-Nacimienta association

Steep, well-drained, moderately deep to deep soils over sandstone and shale; on foothills

The soils of this association are in the foothills of the Chino Hills and Jurupa Mountains and in uplands near the San Timoteo Wash. They formed in place in material derived from sandstone and shale. Slopes range from 30 to 50 percent in most places. Elevation ranges from 800 to 2,500 feet. The average annual rainfall is 12 to 16 inches, the mean annual temperature ranges from 61° to 65° F, and the frost-free season is 230 to 290 days. Annual grasses, forbs, and some chamise and a few scattered oak trees make up plant cover.

This association covers 7 percent of the survey area. Saugus soils make up about 45 percent of the association, Fontana soils about 30 percent, Nacimienta soils 15 percent, and minor soils about 10 percent.

Saugus soils have a surface layer of brown neutral sandy loam. Below this is yellowish-brown sandy loam and loam. This is underlain by weakly consolidated loamy material at a depth of 40 to 50 inches.

Fontana soils have a surface layer of dark grayish-brown, slightly acid or mildly alkaline thick clay loam. Below this is yellowish-brown, moderately alkaline shaly clay loam. This is underlain by soft shale or sandstone at a depth of 22 to 38 inches.

Nacimienta soils are moderately alkaline and calcareous throughout. They have a surface layer of dark grayish-brown clay loam. This is underlain by light yellowish-brown, calcareous weathered sandstone or shale between depths of 26 and 40 inches.

Minor soils in this association are in the Alo, San Timoteo, and Soper series.

The soils of this association are used mainly for dry-land pasture and watershed. Some areas are used for homesites.

The Cieneba series consists of somewhat excessively lined, strongly sloping to steep soils. These soils

formed on uplands in material weathered from granitic rock. Slopes are 9 to 50 percent. Elevation is 1,000 to 2,000 feet. Vegetation is chaparral, chamise, and annual grasses and forbs. The average annual precipitation is 15 to 18 inches, the mean annual air temperature is 61° to 65° F, and the frost-free season is 230 to 280 days.

In a representative profile, the surface layer is brown, slightly acid sandy loam about 8 inches thick. The underlying material is pale-brown, neutral sandy loam about 6 inches thick that overlies reddish-yellow, weathered granitic rock.

These soils are rapidly permeable. Their available water capacity is about 1 to 3 inches. Roots can penetrate to a depth of 12 to 20 inches.

These soils are used mainly for range and watershed. Small areas are used for dryfarmed small grain and for homesites.

Representative profile of Cieneba sandy loam, 30 to 50 percent slopes, in an area of Cieneba-Rock outcrop complex, about 50 feet south of North Sunset Drive; NW¼SE¼SE¼ sec. 6, T. 2 S., R. 2 W.; San Bernardino base line and meridian:

A1—0 to 8 inches, brown (10YR 5/3) sandy loam, dark brown (10YR 3/3) when moist; weak, fine, granular structure; slightly hard, very friable, nonsticky and nonplastic; many very fine and fine roots; many, very fine and fine, interstitial pores; slightly acid; gradual, smooth boundary.

C1—8 to 14 inches, pale-brown (10YR 6/3) sandy loam, brown (10YR 5/3) when moist; weak, fine, subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine roots; many, very fine, interstitial and tubular pores; about 5 to 10 percent weathered granitic gravel; 2 to 4 millimeters in size; neutral; clear, smooth boundary.

C2—14 to 60 inches, reddish-yellow (7.5YR 7/6) weathered granitic bedrock, strong brown (7.5YR 5/6) when moist.

The A horizon is brown or pale brown. Texture is sandy loam or coarse sandy loam but is loam in a few places. Structure is typically weak or moderate, fine or medium, granular; it ranges to subangular blocky. Thickness ranges from 8 to 12 inches but is about 8 inches in most places.

The C1 horizon is pale brown or very pale brown. Structure is generally subangular or angular blocky, but in some places the C1 horizon is massive. Thickness ranges from 4 to 8 inches.

The C2 horizon is typically reddish yellow but in places is strong brown or yellowish brown. The weathered granitic bedrock can be augered or cut with handtools.

Cieneba sandy loam, 9 to 15 percent slopes (CnD). —

This strongly sloping soil is in small areas on foothills throughout the uplands. Included with it in mapping are a few rock outcrops and small patches of soils that have moderate sheet and rill erosion.

Runoff is medium and the hazard of erosion is moderate if the soil is protected or not overgrazed. If this soil is left bare, burned over, or exposed during engineering construction, the hazard of erosion can be high.

This soil is used mainly for dryfarmed grains and pasture. Some areas are used for homesites and other community uses. Capability unit IVE-1 dryland.

Cieneba-Friant sandy loams (Cp). —This steep com-

plex occupies uplands. It is about 60 percent Cieneba sandy loam, 30 to 50 percent slopes, and 35 percent Friant sandy loam, 30 to 50 percent slopes. The Cieneba soil occupies slightly concave side slopes but also occurs on rounded ridgetops. The Friant soil is generally on ridgetops and on the upper part of north-facing slopes.

Included with this complex in mapping are small areas, 5 to 20 acres in size, of Ramona sandy loam, 9 to 15 percent slopes, on terraces. Also included are small patches of soils that have moderate sheet and rill erosion. Rock outcrops occur throughout the area, occupying 5 percent of the area.

Runoff is rapid, and the hazard of erosion is moderate if the soils are not left bare. The hazard of erosion is high if the soils are left bare and unprotected.

The soils in this complex are used for watershed and grazing during the spring. Capability unit VIIe-1 dryland.

Cieneba-Rock outcrop complex (Cr). —This steep complex occupies areas on uplands. It is about 60 percent Cieneba sandy loam, 30 to 50 percent slopes, and 30 percent granitic rock outcrops. The Cieneba soil occurs at random throughout each mapped area, but rock outcrops are generally along the ridgetops and north-facing slopes. The Cieneba soil has the profile described as representative of the series.

Included with this complex in mapping are small areas of soils that have moderate sheet and rill erosion, places where slopes exceed 50 percent, and small areas where slopes are 15 to 25 percent. Also included are small areas that consist mainly of Rock outcrop.

Runoff is rapid, and the hazard of erosion is moderate if soils are burned over or overgrazed.

This complex is used chiefly for grazing during spring and for watershed. Capability unit VIIe-1 dryland.

Greenfield Series

The Greenfield series consists of well-drained, gently sloping to strongly sloping soils. These soils formed on alluvial fans in moderately coarse textured granitic alluvium. Slopes are 2 to 15 percent. Elevation is

0 to 3,400 feet. Vegetation is chamise, annual grasses, and forbs. The average annual precipitation is 12 to 16 inches, the mean annual air temperature is 61° to 65° F, and the frost-free season is 230 to 280 days.

In a representative profile, the surface layer is pale-brown sandy loam about 16 inches thick. The subsoil is yellowish-brown and light-brown fine sandy loam about 34 inches thick. The underlying material is light yellowish-brown sandy loam that extends to a depth of 60 inches or more. Greenfield soils are slightly acid in the surface layer and subsoil and neutral in the underlying material.

These soils are moderately rapidly permeable. Their available water capacity is about 7 to 9 inches. Roots penetrate to a depth of 60 inches or more.

These soils are used for irrigated crops such as citrus, alfalfa, and pasture plants. They are also used for dryfarmed small grains. Some areas are used for homesites and related uses.

Representative profile of Greenfield sandy loam, 2 to 9 percent slopes, about 100 feet north of Oak Glen Road; SE¼SW¼SW¼ sec. 29, T. 2 S., R. 1 W; San Bernardino base line and meridian:

A1—0 to 16 inches, pale-brown (10YR 6/3) sandy loam, brown (10YR 4/3) when moist; massive; hard, very friable, nonsticky and nonplastic; many very fine and fine roots; many, very fine and fine, tubular pores; slightly acid; gradual, smooth boundary.

B2t—16 to 33 inches, yellowish-brown (10YR 5/4) fine sandy loam, dark yellowish brown (10YR 4/4) when moist; weak, fine, subangular blocky structure; slightly hard, friable, slightly sticky and plastic; common very fine and fine roots; many, very fine and fine, tubular pores; few thin clay films on ped faces; very few thin clay films lining tubular pores; slightly acid; gradual, smooth boundary.

B22t—33 to 50 inches, light-brown (7.5YR 6/4) fine sandy loam, brown (7.5Y 4/4) when moist; weak, medium, subangular blocky structure; slightly hard, friable, slightly sticky and plastic; few very fine roots; common, very fine and fine, tubular pores; few thin clay films on ped faces; slightly acid; gradual, smooth boundary.

C—50 to 60 inches, light yellowish-brown (10YR 6/4) sandy loam, yellowish brown (10YR 5/4) when moist; massive; slightly hard when dry, friable when moist, nonsticky and nonplastic when wet; neutral.

The A horizon is pale brown, grayish brown, or brown. Its texture is fine sandy loam, sandy loam, or coarse sandy loam. In places it is cobbly. Organic-matter content is low. Reaction ranges from slightly acid to neutral. Thickness ranges from 12 to 18 inches but is 16 inches in most places.

The B2t horizon is yellowish brown, light yellowish brown, light brown, or brown. Its texture is fine sandy loam or loam, and it contains slightly more clay than the A horizon. Structure is weak, fine or medium, subangular blocky or moderate, medium, subangular or angular blocky. Reaction ranges from slightly acid to neutral. Thickness ranges from 30 to 38 inches. In places a thin B1 horizon may occur.

The C horizon is light yellowish brown, yellowish brown, or brown. Its texture is sandy loam or coarse sandy loam. Reaction is neutral to mildly alkaline, and the C horizon is effervescent in some places.

Greenfield sandy loam, 2 to 9 percent slopes (GtC). This gently sloping to moderately sloping soil is on alluvial fans. It has the profile described as representative of the series. Included with it in mapping are small, level areas that have slopes of 0 to 2 percent.

Also included are areas of Hanford coarse sandy loam. Runoff is medium, and the hazard of erosion is moderate if the soil is unprotected.

This Greenfield soil is used for irrigated citrus, alfalfa, pasture plants, and dryfarmed small grains. Capability unit IIe-1 irrigated.

Greenfield sandy loam, 9 to 15 percent slopes (GtD).—This strongly sloping soil occupies alluvial fans. Included with it in mapping are small areas of Hanford coarse sandy loam and Ramona sandy loam.

Runoff is rapid, and the hazard of erosion is moderate to high where the soil is without vegetation.

This soil is used for citrus and dryfarmed small grains and pasture plants. Small areas are used for homesites and related uses. Capability unit IIe-1 irrigated.

Greenfield cobbly sandy loam, 5 to 15 percent slopes (GuD).—This moderately sloping to strongly sloping soil occupies broad, short, alluvial fans. It has a profile similar to the one described as representative of the series, but the surface layer is grayish brown sandy loam. Also cobblestones occupy about 15 percent of the surface area. Included with this soil in mapping are small patches of Ramona sandy loam and small areas of Hanford coarse sandy loam.

Runoff is medium, and the hazard of erosion is slight. The cobbly surface tends to reduce erosion activity somewhat. Available water capacity is about 6 to 8 inches.

This soil is used mainly for seeded dryfarmed pasture and for spring grazing of livestock. Capability unit IVs-7 irrigated.

Hanford Series

The Hanford series consists of well-drained, nearly level to strongly sloping soils that formed in recent granitic alluvium on valley floors and alluvial fans. Slopes are 0 to 15 percent. Elevation is 1,000 to 1,800 feet. Vegetation is mainly annual grasses and forbs. The average annual precipitation is 12 to 16 inches, the mean annual air temperature is 62° to 65° F, and the frost-free season is 230 to 280 days.

In a representative profile, the soil material is pale-brown and very pale brown sandy loam to a depth of 60 inches or more. This material is slightly acid or neutral throughout.

These soils are moderately rapidly permeable. Their available water capacity is about 7 to 8 inches. Roots penetrate to a depth of 60 inches or more.

These soils are used for irrigated crops such as citrus, alfalfa, grapes, pasture plants, and small grains. Some areas are used for homesites.

Representative profile of Hanford sandy loam, 0 to 2 percent slopes, about 100 feet south of Palmetta Avenue and about one-fourth mile west of Nevada Avenue, NW¼NE¼SE¼, sec. 17, T. 1 S., R. 3 W.; San Bernardino base line and meridian:

Ap—0 to 12 inches, pale-brown (10YR 6/3) sandy loam, brown (10YR 4/3) when moist; massive; slightly hard, friable, nonsticky and nonplastic; many very fine and fine roots; many, very fine and fine, tubular and inter-

stitial pores; slightly acid; gradual, smooth boundary.

C1—12 to 32 inches, pale-brown (10YR 6/3) sandy loam, brown (10YR 4/3) when moist; weak, fine, subangular blocky structure; slightly hard, friable, nonsticky and nonplastic; common very fine and fine roots; common, very fine and fine, interstitial and tubular pores; neutral; gradual, smooth boundary.

C2—32 to 60 inches, very pale brown (10YR 7/3) sandy loam, brown (10YR 5/3) when moist; massive; slightly hard, friable, nonsticky and nonplastic; few very fine roots; few, very fine and fine, interstitial and tubular pores; neutral.

The A horizon is pale brown, light brownish gray, or brown. Its texture is sandy loam or coarse sandy loam. The soil is generally massive but may have weak, fine or medium, granular or subangular blocky structure. Thickness ranges from 8 to 14 inches but is 12 inches in most places.

The C horizon is pale brown, very pale brown, or light yellowish brown. Its texture is sandy loam, fine sandy loam, or coarse sandy loam. Reaction ranges from slightly acid to neutral but it may be mildly alkaline in some places. Some fine pebbles occur in a few places but generally do not exceed 5 percent by volume. Thin lenses of loam often occur.

Hanford coarse sandy loam, 2 to 9 percent slopes (HaC).—This gently sloping to moderately sloping soil occupies alluvial fans. It has a profile similar to the one described as representative of the series, but the surface layer is light brownish-gray coarse sandy loam about 10 inches thick. Included with it in mapping are areas of Greenfield sandy loam that make up as much as 10 percent of the total mapped areas. Also included are patches of Tujunga loamy sand, 0 to 5 percent slopes.

Runoff is slow to medium, and the hazard of erosion is slight to moderate where the soil is left unprotected.

This Hanford soil is used for irrigated crops such as citrus and alfalfa. It also is used for dryfarmed small grains and pasture plants. Homesites and other related uses are also important. Capability unit IIe-1 irrigated.

Hanford coarse sandy loam, 9 to 15 percent slopes (HaD).—This strongly sloping soil is on fans and terraces that have short side slopes. It has a profile similar to the one described as representative of the series, but the surface layer is brown coarse sandy loam about 10 inches thick. Included with it in mapping are areas of Greenfield sandy loam and Ramona sandy loam that each make up about 5 percent of the total area.

Runoff is medium, and the hazard of erosion is medium to high if the soil is left without plant cover.

This soil is used for citrus, grapes, and dryfarmed small grains. Some areas are used for homesites. Capability unit IIIe-1 irrigated.

Hanford sandy loam, 0 to 2 percent slopes (HbA).—This nearly level soil is on valley floors and toe slopes of alluvial fans. Included with it in mapping are small areas where slopes are 2 to 5 percent. Also included are small areas of Greenfield sandy loam, 2 to 9 percent slopes, and small scattered patches of soils that are loamy sand below a depth of 40 inches.

Runoff is slow, and the hazard of erosion is slight if the soil is left unprotected.

This soil is used for irrigated crops such as citrus, alfalfa, small grains, and pasture plants. Capability unit I irrigated.

Monserate Series

The Monserate series consists of moderately well drained, gently sloping to moderately sloping soils. These soils formed on alluvial fans and terraces in anitic alluvium. Slopes are 2 to 9 percent. Elevation 800 to 1,200 feet. Vegetation is annual grasses and

The average annual precipitation is 12 to 16 inches, the mean annual air temperature is 62° to 65° F., and the frost-free season is 230 to 280 days.

In a representative profile, the surface layer is brown sandy loam and fine sandy loam about 10 inches thick. The subsoil is strong-brown and reddish-brown clay loam about 20 inches thick. It is underlain by a yellowish-brown, indurated hardpan that is about 15 inches thick. Below the hardpan, to a depth of 60 inches or more, the underlying material is dark yellowish-brown coarse sandy loam. Monserate soils are slightly acid in the surface layer, neutral in the subsoil, and mildly alkaline below.

The subsoil of these soils is moderately slowly permeable, and the indurated hardpan is very slowly permeable. Available water capacity is about 4 to 7 inches. Roots penetrate to a depth of 30 to 40 inches. These soils are used for such irrigated crops as small grains, alfalfa, and pasture plants. Dryfarmed small grains are also grown.

Representative profile of Monserate sandy loam, 2 to 9 percent slopes, about 300 feet north of Riverside Freeway, about 300 feet east of La Cadena Avenue;

E1/4SE1/4SW1/4 sec. 6, T. 2 S., R. 4 W.; San Bernardino base line and meridian:

- Ap—0 to 6 inches, brown (7.5YR 5/4) sandy loam, dark brown (7.5YR 4/4) when moist; moderate, medium, subangular blocky structure; slightly hard, friable, nonsticky and nonplastic; many very fine and fine roots; many, very fine and fine, tubular pores; slightly acid; clear, smooth boundary.
- A12—6 to 10 inches, brown (7.5YR 5/4) fine sandy loam, dark brown (7.5YR 4/4) when moist; moderate, medium, subangular blocky structure; hard, friable, slightly sticky and slightly plastic; many very fine and fine roots; many, very fine and fine, tubular pores; slightly acid; abrupt, smooth boundary.
- B21t—10 to 24 inches, strong-brown (7.5YR 5/6) clay loam, dark brown (7.5YR 4/4) when moist; moderate, medium, prismatic structure; very hard, very firm, sticky and plastic; common very fine and fine roots; common very fine and fine pores; common moderately thick clay films on ped faces and lining tubular pores; neutral; gradual, smooth boundary.
- B22t—24 to 30 inches, reddish-brown (5Y 5/4) clay loam, reddish brown (5YR 4/4) when moist; moderate, medium, subangular blocky structure; very hard, very firm, sticky and plastic; few very fine and fine roots; few, very fine and fine, tubular pores; many moderately thick clay films on ped faces and lining tubular pores; neutral; abrupt, smooth boundary.
- C1m—30 to 45 inches, yellowish-brown (10YR 5/4) indurated silica-cemented hardpan, dark yellowish brown (10YR 3/4) when moist; massive; extremely hard, extremely firm; no roots; mildly alkaline; gradual, smooth boundary.
- C2—45 to 60 inches, yellowish-brown (10YR 5/4) coarse sandy loam, dark yellowish brown (10 YR 4/4) when moist; massive; very hard, very firm, nonsticky and nonplastic; mildly alkaline.

The A1 horizon is brown or dark brown. It is generally sandy loam or fine sandy loam, but in a few places it is loam. Structure ranges from moderate, medium, subangular blocky throughout to weak, fine or medium, granular. This horizon ranges from 10 to 15 inches in thickness but is commonly 10 inches thick. Reaction ranges from slightly acid to neutral.

The B2t horizon is strong brown to reddish brown. It is generally clay loam throughout; in places the upper part is sandy clay loam. Structure ranges from moderate, medium, prismatic to subangular blocky or angular blocky. Reaction is neutral in most areas; it is mildly alkaline in some spots. Thickness ranges from 20 to 25 inches but is 20 inches in most places.

The C1m horizon is yellowish brown to brown. In some places it has platy structure; in other places it is massive. Thickness ranges from 15 to 30 inches but is 15 to 20 inches on the average. Reaction is mildly alkaline to moderately alkaline. Depth to this horizon is 30 to 40 inches.

The C horizon below the hardpan is yellowish brown to light yellowish brown. Its texture is coarse sandy loam or sandy loam. Structure is typically weak, fine, subangular blocky, or the soil is massive. Reaction is mildly alkaline or moderately alkaline.

Monserate sandy loam, 2 to 9 percent slopes (MoC).

—This gently sloping to moderately sloping soil is on alluvial fans. Included with it in mapping are small patches, 5 to 10 acres in size, of a soil that has slopes of 10 to 15 percent, areas of Greenfield sandy loam, and small scattered areas of Ramona sandy loam. Also included are about 195 acres where slopes are 0 to 2 percent.

Runoff is medium, and the hazard of erosion is slight to moderate if the soil is left without a protec-

tive cover of vegetation. The hazard of soil blowing is moderate. The indurated hardpan restricts the choice of crops and reduces available water capacity.

This soil is used for irrigated small grains, alfalfa, and pasture plants. Capability unit IIIe-8 irrigated.

Psammments and Fluvents, Frequently Flooded

Psammments and Fluvents, frequently flooded (Ps), consists of sandy and gravelly material in intermittent streambeds of the Santa Ana River, Mill Creek, Warm Creek, Cajon Creek, and other large creeks and their major tributaries. Some areas consist of cobbles, stones, and boulders. During each flood, silt from streambanks is freshly deposited and partly reworked.

Areas of this mapping unit have no value for farm-

ing. Their main use is as a source of sand and gravel for construction material. Vegetation is limited, consisting mainly of a scanty growth of annual grasses and forbs and a few willows and cottonwood trees. Capability unit VIIIw-1 dryland.

Ramona Series

The Ramona series consists of well-drained, gently sloping to moderately steep soils that formed on fans and terraces in granitic alluvium. Slopes are 2 to 30 percent. Elevation is 1,000 to 3,000 feet. Vegetation is chamise and annual grasses and forbs. The average annual precipitation is 12 to 18 inches, the mean annual air temperature is 59° to 62° F, and the frost-free season is 230 to 290 days.

In a representative profile, the surface layer is brown sandy loam and fine sandy loam about 23 inches thick. The subsoil is brown, yellowish-red, and reddish-yellow loam, clay loam, and sandy clay loam. It is about 31 inches thick. The underlying material is brownish-yellow sandy loam that extends to a depth of 60 inches or more. Ramona soils are slightly acid in the surface layer and neutral below.

These soils are moderately slowly permeable. Their available water capacity is 8 to 9 inches. Roots can penetrate to a depth of 60 inches or more.

These soils are used for such irrigated crops as citrus, small grains, alfalfa, and pasture plants. Dry-farmed small grains are also grown. A few small areas are used for homesites and related uses.

Representative profile of Ramona sandy loam, 2 to 9 percent slopes, about 300 feet south of Barton Road and about 500 feet west of Alabama Street; NW¼, NE¼NW¼ sec. 32, T. 1 S., R. 3 W.; San Bernardino base line and meridian:

Ap—0 to 12 inches, brown (10YR 5/3) sandy loam, dark brown (10YR 3/3) when moist; massive; hard, very friable, nonsticky and nonplastic; few very fine and fine roots; many, very fine and fine, interstitial and tubular pores; slightly acid; clear, smooth boundary.

A12—12 to 23 inches, brown (10YR 5/3) fine sandy loam, dark brown (10YR 3/3) when moist; massive; hard, very friable, slightly sticky and plastic; few very fine and fine roots; common, very fine and fine, tubular pores; slightly acid; clear, smooth boundary.

B1—23 to 32 inches, brown (7.5YR 5/4) loam, dark brown (7.5YR 4/4) when moist; weak, medium, subangular blocky structure; hard, friable, slightly sticky and slightly plastic; few very fine and fine roots; many, very fine and fine, tubular pores; very few thin clay films on ped faces and lining tubular pores; neutral; clear, smooth boundary.

B2t—32 to 40 inches, brown (7.5YR 5/4) clay loam, dark brown (7.5YR 4/4) when moist; moderate, medium, blocky structure; very hard, firm, sticky and plastic; few very fine and fine roots; common, very fine and fine, interstitial pores; common moderately thick clay films on ped faces; neutral; gradual, smooth boundary.

B22t—40 to 48 inches, yellowish-red (5Y 5/6) clay loam, yellowish red (5YR 5/6) when moist; moderate, coarse, angular blocky structure; very hard, firm, sticky and plastic; few very fine and fine roots; common, very fine and fine, interstitial and tubular pores; many moderately thick clay films on ped faces; neutral; gradual, smooth boundary.

B3—48 to 54 inches, reddish-yellow (7.5YR 6/6) sandy clay loam, strong brown (7.5YR 5/6) when moist;

moderate, medium, subangular blocky structure; hard, firm, sticky and plastic; very few fine roots; few, very fine and fine, tubular pores; very few thin clay films lining pores; neutral; gradual, smooth boundary.

C—54 to 60 inches, brownish-yellow (10YR 6/6) sandy loam, yellowish brown (10YR 5/6) when moist; massive; slightly hard, friable, nonsticky and nonplastic; few, very fine and fine, tubular pores; neutral.

The A1 horizon is pale brown to strong brown. Reaction is generally slightly acid; it is medium acid in a few spots. Thickness ranges from 16 to 25 inches but averages about 23 inches in most places.

The B2t horizon is commonly brown, strong brown, or yellowish red, but in some places it is reddish yellow or reddish brown. It is sandy clay loam or clay loam. It has weak or moderate, medium or coarse, subangular or angular blocky structure. It is typically neutral, but it may be mildly alkaline in the lower part. This horizon ranges from 16 to 36 inches in thickness but is generally about 16 inches thick.

The C horizon is brownish yellow or yellowish brown sandy loam or coarse loam. In some areas thin lenses of loam or gravel. This horizon is generally massive but has weak or medium, angular or subangular blocky structure in some places. It is generally neutral, but it is mildly alkaline and slightly effervescent in a few places.

Ramona sandy loam, 2 to 9 percent slopes (RmC).

—This gently sloping to moderately sloping soil occupies long alluvial fans and low terraces associated with steeper areas on uplands. It has the profile described as representative of the series. Included with it in mapping are patchy areas of Greenfield sandy loam and Monserate sandy loam. Also included are a few small areas that have moderate sheet and rill erosion. Shallow gullies cut a few areas.

Runoff is medium, and the hazard of erosion is moderate where the soil is not protected by vegetation.

This Ramona soil is used for dryfarmed small grains and irrigated citrus, alfalfa, small grains, and pasture. Some areas once used for crops are now used for homesites and related uses. Capability unit IIe-1 irrigated.

Ramona sandy loam, 9 to 15 percent slopes (RmD).

—This strongly sloping soil is on short terraces mainly in uplands. Included with it in mapping are small areas of Greenfield sandy loam. Shallow gullies are present in some areas, and there are a few deep gullies. In places small patches of soils have moderate sheet and rill erosion.

Runoff is medium. If the soil is not protected by a cover of vegetation, the hazard of erosion is moderate to high.

This soil is used for dryfarmed small grains and pasture plants. Some small areas are used for citrus. Homesites and other related uses are becoming more important. Capability unit IIe-1 irrigated.

Ramona sandy loam, 15 to 30 percent slopes, eroded (RmE2).—This moderately steep soil is on upland terraces that have short side slopes. Slopes near Redlands are complex in many places. The soil has a profile similar to the one described as representative of the series, but the surface layer is pale brown or brown and is about 16 or 17 inches thick. Sheet and rill erosion are moderate in most areas. Many areas have shallow gullies, but some areas have a few deep gullies.

Included with this soil in mapping are small areas

of Greenfield sandy loam, 9 to 15 percent slopes. Also included are small patches, 2 to 5 acres in size, of Monserate sandy loam, 2 to 9 percent slopes.

Runoff is medium to rapid, and the hazard of erosion is moderate to high on bare soil. This soil is used mainly for dryfarmed pasture. Less sloping areas are commonly used for citrus. Capability unit IVe-1 irrigated.

San Emigdio Series

The San Emigdio series consists of well-drained, nearly level to strongly sloping soils. These soils formed on alluvial fans in somewhat mixed alluvium derived mainly from sedimentary materials. Slopes are 0 to 15 percent. Elevation is 1,000 to 2,000 feet. Vegetation is chamise, annual grasses, and forbs. The average annual precipitation is 12 to 16 inches, the mean annual air temperature is 61° to 65° F, and the frost-free season is 230 to 280 days.

In a representative profile, the surface layer is light brownish-gray fine sandy loam. The underlying material is pale-brown fine sandy loam that extends to a depth of 60 inches or more. San Emigdio soils are moderately alkaline and calcareous throughout.

These soils are moderately rapidly permeable. Their available water capacity is about 7 to 9 inches. Roots can penetrate to a depth of 60 inches or more.

These soils are used for irrigated small grains, citrus, alfalfa, and pasture plants.

Representative profile of San Emigdio fine sandy loam, 2 to 9 percent slopes, about 300 feet east of San Timoteo Canyon Road and about one-fourth mile south of the Fern Avenue and San Timoteo Canyon Road intersection; SW¼NW¼ sec. 4, T. 2 S., R. 3 W; San Bernardino base line and meridian:

A1—0 to 8 inches, light brownish-gray (10YR 6/2) fine sandy loam, brown (10YR 5/3) when moist; weak, fine granular structure; soft, very friable, nonsticky and nonplastic; many, very fine roots; many, very fine, tubular pores; moderately alkaline; violently effervescent; some lime in fine threads; clear, smooth boundary.

C1—8 to 14 inches, pale-brown (10YR 6/3) fine sandy loam, brown (10YR 5/4) when moist; weak, fine, subangular blocky structure; hard, friable, nonsticky and nonplastic; many, very fine roots; many, very fine tubular pores; moderately alkaline; violently effervescent; some lime in fine threads; clear, smooth boundary.

C2ca—14 to 38 inches, pale-brown (10YR 6/3) fine sandy loam, brown (10YR 5/3) when moist; weak, fine angular blocky structure; hard, friable, slightly sticky and slightly plastic; common very fine roots; common, very fine, tubular pores; moderately alkaline; violently effervescent; some lime in fine threads and soft masses; gradual, wavy boundary.

C3ca—38 to 60 inches, pale-brown (10YR 6/3) fine sandy loam, brown (10YR 5/3) when moist; weak, fine, angular blocky structure; hard, friable, slightly sticky and slightly plastic, few very fine roots; few very fine tubular pores; moderately alkaline; violently effervescent; some lime in fine threads and soft masses.

The A1 horizon is light brownish gray or grayish brown fine sandy loam or sandy loam. It has weak, fine to medium, granular structure. It is generally moderately alkaline but is mildly alkaline in spots. The A1 horizon is slightly to violently effervescent, and in some areas, lime occurs in threads or filaments. This horizon ranges from 7 to 10-

inches in thickness but is 8 inches thick in most places. In some areas it is 15 to 25 percent gravel, by volume.

The C horizon is pale brown, very pale brown, or light gray. It is generally sandy loam or fine sandy loam, but in a few places it is coarse sandy loam below a depth of 44 inches. Thin lenses of loam, silt loam, or very fine sandy loam are common at depths of 36 to 60 inches. This horizon has weak, fine, subangular or angular blocky structure, but in many places it is massive.

San Emigdio sandy loam, 9 to 15 percent slopes (SaO). —This strongly sloping soil occupies narrow, long, alluvial fans in side canyons. In some places at the head of draws are a few shallow gullies. Included with this soil in mapping are areas of Hanford coarse sandy loam that occur at random in patches 5 to 10 acres in size.

Runoff is slow to medium, and the hazard of erosion is moderate in places where the soil does not have a protective cover of vegetation. Available water capacity is 7 to 8 inches.

This soil is used chiefly for dryfarmed small grain and pasture plants. In places there are irrigated citrus plantings. Capability unit IIIe-1 irrigated.

San Emigdio gravelly sandy loam, 2 to 9 percent slopes (SbC). —This gently sloping to moderately sloping soil is on rather narrow alluvial fans. It has a profile similar to the one described as representative of the series, but the upper 12 to 16 inches is 15 to 25 percent gravel, by volume.

Included with this soil in mapping are small areas of Metz coarse sandy loam and Hanford coarse sandy loam. Also included are areas of depositional soil material of various textures. This material is 1 to 3 feet deep and is along intermittent drainageways. It is a result of the 1969 floods.

Runoff is slow to medium. Available water capacity is about 7 to 8 inches. The hazard of erosion is slight. Gravel helps protect much of the surface.

This soil is used for irrigated alfalfa, small grains, and pasture plants. Some citrus is grown. Capability unit IIe-1 irrigated.

San Emigdio fine sandy loam, 0 to 2 percent slopes (ScA). —This nearly level soil is on alluvial fans that are mainly near Loma Linda. Included with it in mapping are small patches of Metz coarse sandy loam, 2 to 9 percent slopes. Also included are areas of Hanford sandy loam and small patches of soil that has a surface layer of gravelly sandy loam.

Runoff is slow, and the hazard of erosion is slight. Available water capacity is about 5 to 9 inches.

This soil is used for irrigated small grains, citrus, and pasture plants. Small areas are used for homesites and related uses. Capability unit I irrigated.

San Emigdio fine sandy loam, 2 to 9 percent slopes (ScC). —This gently sloping to moderately sloping soil occupies alluvial fans. It has the profile described as representative of the series. Included with it in mapping are small areas, 5 to 10 acres in size, of San Emigdio sandy loam, 9 to 15 percent slopes. Also included are areas of Hanford coarse sandy loam and small patches where the surface layer is gravelly sandy loam.

Runoff is slow, and the hazard of erosion is slight

to moderate on bare soil. Available water capacity is about 5 to 8 inches.

This soil is used for such irrigated crops as alfalfa, small grains, and pasture plants. Capability unit IIe-1 irrigated.

San Timoteo Series

The San Timoteo series consists of well-drained, steep soils. These soils formed on uplands in material derived from soft, weathered sandstone. Slopes are 30 to 50 percent. Elevation is 1,200 to nearly 3,000 feet. Vegetation is chamise, annual grasses, and forbs.

Average annual precipitation is 12 to 16 inches, the mean annual air temperature is 61° to 65° F, and the frost-free season is 240 to 280 days.

In a representative profile, the surface layer is grayish-brown and pale-brown loam about 13 inches thick. The underlying material, to a depth of 24 inches, is very pale brown loam. Below this is very pale brown, soft, calcareous sandstone that extends to a depth of 50 inches or more. San Timoteo soils are moderately alkaline and calcareous throughout.

These soils are moderately permeable. Their available water capacity is about 4 to 5 inches. Roots penetrate to a depth of 24 to 30 inches.

These soils are used for seeded pasture, spring grazing of livestock, and watershed.

Representative profile of San Timoteo loam, 30 to 50 percent slopes, eroded, about 300 feet south of West Avenue F, about 500 feet northeast of San Bernardino Freeway No. 10; NE $\frac{1}{4}$ NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 9, T. 2 S., R. 2 W.; San Bernardino base line and meridian:

A11—0 to 10 inches, grayish-brown (10YR 5/2) loam; weak, fine, granular structure; soft, very friable, non-sticky and slightly plastic; many very fine and fine roots; many, very fine and fine, interstitial pores; violently effervescent; some lime in soft masses; moderately alkaline; clear, smooth boundary.

A12—10 to 13 inches, pale-brown (10YR 6/3) loam, brown (10YR 5/3) when moist; massive; soft, very friable, nonsticky and slightly plastic; many very fine and fine roots; common, very fine and fine, interstitial pores; violently effervescent; some lime in soft masses; moderately alkaline; clear, smooth boundary.

C1—13 to 24 inches, very pale brown (10YR 7/3) loam, pale brown (10YR 6/3) when moist; massive; soft, very friable, nonsticky and slightly plastic; common very fine and fine roots; few, very fine and fine, interstitial pores; violently effervescent; some lime in soft masses; moderately alkaline; abrupt, smooth boundary.

C2—24 to 60 inches, very pale brown (10YR 7/4), soft, calcareous sandstone that crushes to sandy loam when rubbed; light yellowish brown (10YR 6/4) when moist; violently effervescent.

The A1 horizon is grayish brown, light brownish gray, pale brown, or light gray. It is generally loam, but in small areas it is fine sandy loam or sandy loam. It ranges from weak, fine, granular to crumb or subangular blocky in structure throughout, but in places it is massive in the lower part. This horizon is generally moderately alkaline, but it is mildly alkaline in spots. It is strongly effervescent or violently effervescent. It averages about 13 inches thick but ranges from 10 to 16 inches in thickness.

The upper part of the C horizon is very pale brown or pale-brown sandy loam or loam. It is generally massive but has weak, fine, subangular blocky structure in places. Seg-

regated lime occurs as soft masses, seams, or threads. Depth to the sandstone is 24 to 30 inches.

San Timoteo loam, 30 to 50 percent slopes, eroded (PgF2).—This steep soil is on uplands. Sheet and rill erosion are moderate in most areas. Shallow gullies are present in some places. Included with this soil are patches, 10 to 30 acres in size, where slopes range from 0 to 30 percent. Also included are areas of Saugus sandy loam, 30 to 50 percent slopes.

Runoff is rapid, and the hazard of erosion is moderate to high in places where soil is left bare.

This San Timoteo soil is used for seeded pasture, spring livestock grazing, and watershed purposes. Capability unit VIe-1 dryland.

Saugus Series

The Saugus series consists of well-drained, steep soils. These soils formed on uplands in weakly consolidated sediment. Slopes are 30 to 50 percent. Elevation is 1,200 to 2,500 feet. Vegetation is chamise, annual grasses, and forbs. The average annual precipitation is 14 to 16 inches, the mean annual air temperature is 62° to 65° F, and the frost-free season is 250 to 280 days.

In a representative profile, the surface layer is brown sandy loam about 8 inches thick. The underlying material, to a depth of 40 inches, is yellowish-brown sandy loam or loam. Below this it is weakly consolidated loamy sediments. Saugus soils are neutral in the surface layer and slightly acid below.

These soils are moderately permeable. Their water capacity is 5 to 6 inches. Roots can penetrate to a depth of 40 to 50 inches.

These soils are used for watershed and for some livestock grazing in spring.

Representative profile of Saugus sandy loam, 30 to 50 percent slopes, about 300 yards south of South Sunset Drive; NW¼NE¼SE¼ sec. 7, T. 2 S., R. 2 W.; San Bernardino base line and meridian:

A1—0 to 8 inches, brown (10YR 5/3) sandy loam, dark brown (10YR 3/3) when moist; weak, fine, granular structure; slightly hard, very friable, nonsticky and nonplastic; many very fine and fine roots; many, very fine and fine, interstitial pores; neutral; clear, smooth boundary.

C1—8 to 18 inches, yellowish-brown (10YR 5/4) sandy loam, dark yellowish brown (10YR 4/4) when moist; weak, medium, subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; many very fine and fine roots; many, very fine and fine, interstitial pores; slightly acid; gradual, smooth boundary.

C2—18 to 40 inches, yellowish-brown (10YR 5/4) loam, dark yellowish brown (10YR 4/4) when moist; weak, medium, subangular blocky structure; slightly hard, friable, nonsticky and nonplastic; few medium and coarse roots and common very fine and fine roots; many, very fine and fine, interstitial pores; slightly acid; abrupt, smooth boundary.

C3—40 to 60 inches, yellowish-brown (10YR 5/4), weakly consolidated loamy sediment; massive; slightly acid.

The A1 horizon is brown, dark yellowish brown, or grayish brown. Its texture is sandy loam or loam. Structure ranges from weak, fine, granular to weak or moderate, fine or medium, subangular blocky. Reaction ranges from

slightly acid to neutral. Thickness is generally 8 inches, but it is as much as 12 inches in some places.

The C horizon is light yellowish brown, yellowish brown, or pale brown. In places it has thin lenses of loamy coarse sand or gravelly sandy loam. This horizon has weak or moderate, fine or medium, subangular blocky structure. It is slightly acid to neutral. Typically, depth to weakly consolidated sediment is 40 to 50 inches.

Saugus sandy loam, 30 to 50 percent slopes (ShF).

—This steep soil is mainly on foothills in uplands, but it also occurs throughout a large part of the survey area on steep, escarpment-like relief where the parent material is soft granitic or sedimentary material.

Included with this soil in mapping are small scattered spots where gravel and cobbles are on the surface. Also included are areas of soils, 10 to 15 acres in size, that have moderate sheet and rill erosion. There are a few shallow gullies in some areas and one or two deep gullies in a few areas. Also included are areas of San Timoteo loam, 30 to 50 percent slopes, eroded, as well as a few places that have slopes of as much as 65 percent.

Runoff is rapid, and the hazard of erosion is moderate to high in places where soil is left bare.

This Saugus soil is used for watershed and for limited spring grazing of livestock. Capability unit VIIe-1 dryland.

Tujunga Series

The Tujunga series consists of somewhat excessively drained, nearly level to moderately sloping soils that

formed on alluvial fans in granitic alluvium. Slopes 0 to 9 percent. Elevation is 1,000 to 2,000 feet. Vegetation is thin strands of chamise, some big sagebrush, and annual grasses and forbs. The average annual precipitation is 12 to 16 inches, the mean annual temperature is 61° to 65° F, and the frost-free season is 230 to 280 days.

In a representative profile, the soil is brown loamy sand and pale-brown coarse sand that extends to a depth of 60 inches or more. Tujunga soils are slightly acid throughout their profile.

The Tujunga soils are rapidly permeable. Roots can penetrate to a depth of 60 inches or more.

These soils are used mainly for such irrigated crops as citrus, grapes, small grains, and potatoes.

Representative profile of Tujunga loamy sand, 0 to 9 percent slopes, about 100 feet east of Webster Road and about 200 feet northeast of Orange Street; SW¼ E¼SW¼ sec. 3, T. 1 S., R. 3 W.; San Bernardino meridian:

A1—0 to 6 inches, brown (10YR 5/3) loamy sand, dark brown (10YR 4/3) when moist; single grained; loose when dry or moist, nonsticky and nonplastic; many very fine and fine roots; many, very fine and fine, interstitial pores; slightly acid; clear, smooth boundary.

C1—6 to 18 inches, pale-brown (10YR 6/3) coarse sand, brown (10YR 5/3) when moist; single grained; loose when dry or moist, nonsticky and nonplastic; few very fine roots; slightly acid; gradual, smooth boundary.

C2—18 to 60 inches, pale-brown (10YR 6/3) coarse sand, brown (10YR 5/3) when moist; single grained; loose when dry or moist, nonsticky and nonplastic; few very fine roots; slightly acid.

The A1 horizon is brown or grayish brown loamy sand, sand, or loamy coarse sand that is gravelly in places. It is generally single grained, but is massive in some places. This horizon is generally slightly acid, but it is neutral in a few spots. It ranges from 6 to 10 inches in thickness.

The C horizon is pale brown, very pale brown, or brown coarse sand, loamy sand, sand, and loamy coarse sand. Thin lenses of fine gravel are common. In small areas texture is gravelly loamy sand throughout, and in these areas the C horizon is about 15 to 30 percent gravel, by volume. In places there are a few cobbles below a depth of 44 inches. The soil is typically single grained, but in a few places the C horizon is massive. It is slightly acid in most places, is neutral in some places, and mildly alkaline below a depth of 40 inches in a few places.

Tujunga loamy sand, 0 to 5 percent slopes (TUB). This nearly level to gently sloping soil is on broad, flat alluvial fans. It has the profile described as representative of the series.

Included with it in mapping are areas of Tujunga gravelly loamy sand, 0 to 9 percent slopes, that generally are 10 to 20 acres in size. Also included are areas of Hanford sandy loam, 0 to 2 percent slopes.

Runoff is slow to very slow. The hazard of water erosion is slight, but the soil will blow if left unprotected. The hazard of soil blowing is moderate to high on bare soil. Available water capacity is 4 to 5 inches. This soil is used for such irrigated crops as citrus, grapes, small grains, and pasture plants. Capability unit IIIe-4 irrigated.

Tujunga gravelly loamy sand, 0 to 9 percent slopes (C).—This nearly level to moderately sloping soil occurs on long, broad, smooth alluvial fans. It has a

profile similar to the one described as representative of the series, but the content of fine gravel, to a depth of 36 to 40 inches, is about 15 to 30 percent, by volume. Near Highland Avenue and Citrus Avenue north of 22d and Mountain Avenues, patches of this soil have a dark grayish-brown or dark-brown surface layer.

Included with this soil in mapping are areas of Soboba gravelly loamy sand. Also included are areas of Delhi fine sand.

Runoff is very slow to slow. Available water capacity is 3 to 4 inches. The hazard of erosion is slight because of the gravelly surface layer.

This Tujunga soil is used for irrigated small grains and pasture plants. It is a favored soil for lemons in the west end of the survey area north of Foothill Boulevard. Capability unit IVs-4 irrigated.

Vista Series

The Vista series consists of well-drained, steep soils that formed on foothills in the uplands in material weathered from granitic rock. Slopes are 30 to 50 percent. Elevation is 1,200 to 3,500 feet. Vegetation is chamise and annual grasses and forbs. The average annual precipitation is 12 to 16 inches, the mean annual air temperature is 61° to 65° F, and the frost-free season is 230 to 280 days.

In a representative profile, the surface layer is brown sandy loam or coarse sandy loam about 20 inches thick. The subsoil is yellowish-brown coarse sandy loam or sandy loam about 18 inches thick. Decomposed granitic rock is at a depth of 38 inches. Vista soils are typically slightly acid in the surface layer but become neutral with increasing depth.

These soils are moderately rapidly permeable. Their available water capacity is about 3 to 5 inches. Roots do not penetrate to a depth of 24 to 40 inches.

These soils are used mainly for spring livestock grazing and watershed.

Representative profile of Vista sandy loam, 30 to 50 percent slopes, in an area of Vista-Rock outcrop complex, about three-fourths mile northwest of Rosendale Avenue in La Loma Hills and about three-fourths mile north of Riverside Freeway 395; NW1/4NW1/4V1/4 sec. 6, T. 2 S., R. 4 W; San Bernardino base line and meridian:

- A11—0 to 2 inches, brown (10YR 4/3) sandy loam, dark brown (10YR 3/3) when moist; weak, medium, crumb structure; soft, very friable, nonsticky and nonplastic; many very fine and fine roots; many, very fine and fine, interstitial pores; slightly acid; abrupt, smooth boundary.
- A12—2 to 11 inches, brown (10YR 5/3) coarse sandy loam, dark brown (10YR 4/3) when moist; weak, medium, crumb structure; slightly hard, very friable, nonsticky and nonplastic; many very fine and fine roots; many, very fine and fine, interstitial pores; slightly acid; gradual, smooth boundary.
- A13—11 to 20 inches, brown (10YR 5/3) coarse sandy loam, dark brown (10YR 4/3) when moist; weak, medium, granular structure; slightly hard, very friable, nonsticky and nonplastic; common very fine and fine roots; many, very fine and fine, interstitial pores; slightly acid; clear, wavy boundary.
- B21—20 to 29 inches, yellowish-brown (10YR 5/4) coarse sandy loam, dark yellowish brown (10YR 4/4) when moist; weak, medium, subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; few very fine and fine roots; many, very fine and fine, interstitial and tubular pores; slightly acid; gradual, wavy boundary.
- B22—29 to 38 inches, yellowish-brown (10YR 5/4) sandy loam, dark yellowish-brown (10YR 4/4) when moist; massive; hard, friable, nonsticky and nonplastic; few very fine roots; many, very fine, interstitial and tubular pores; neutral; abrupt, wavy boundary.
- C—38 to 60 inches, brownish-yellow (10YR 6/6) decomposed granitic rock; neutral.

The A1 horizon is brown to dark grayish brown. In places it is weak, medium, subangular blocky in the lower part. This horizon is typically slightly acid, but it is medium acid in spots or even neutral. Thickness ranges from 12 to 20 inches but is about 20 inches in most places.

The B2 horizon is yellowish brown, brown, or strong brown fine sandy loam, sandy loam, or coarse sandy loam. In most places, it has weak, fine to medium, subangular blocky structure throughout, but in some places the lower part is massive. It ranges from 12 to 20 inches in thickness. In some places this horizon has a few thin clay films on ped faces or lining the tubular pores, but in other places the clay films occur as few to common, thin to moderately thick bridgings between mineral grains.

The C horizon is brownish-yellow or other varicolored decomposed granitic rock. Depth to weathered granite is 24 to 40 inches. Depth to hard rock is generally more than 60 inches but varies considerably within short distances.

Vista-Rock outcrop complex (Vr). —This steep complex is mainly on uplands. It is about 50 percent Vista sandy loam, 30 to 50 percent slopes, and 30 percent rock outcrops. Vista sandy loam and rock outcrops occur at random throughout each mapped area, but Vista sandy loam commonly occurs on the side slopes, and rock outcrops occupy the ridgetops and steeper parts of the landscape.

Included with this complex in mapping are about 135 acres south and southwest of Loma Linda near the Riverside County line where slopes are 10 to 15 percent and bedrock is not exposed. Also included are small scattered patches of a soil similar to this soil that has a subsoil of reddish-brown light sandy clay loam and small areas of San Timoteo loam, 30 to 50 percent slopes, eroded.

Runoff is medium to rapid, and the hazard of erosion is moderate.

This soil is used mainly for watershed but occasionally it is used for grazing of livestock in spring. Capability unit VIIe-1 dryland.

APPENDIX C

**Background Data on the
Orangethroated Whiptail Lizard**

Cnemidophorus hyperythrus beldingiTAXONOMY AND NOMENCLATURE

ORDER AND FAMILY: Squamata: Teiidae

TEIIDAE

COMMON NAME: Orange-throated whiptail

ORANGE THROATED WHIPTAIL

AUTHORITY: Stejneger, L.

STEJNEGER, J.

CITATION OF ORIGINAL DESCRIPTION: 1894, Proc. U. S. Nat. Mus., XVII, p. 17.

TYPE LOCALITY: Cerros Island, Baja California, Mexico.

CERROS IS. BAJA CALIF.

SYNONYMS: Verticaria hyperthra beldingi; Verticaria beldingi;
Cnemidophorus hyperthrus

VERTICARIA HYPERTHRA BELDINGI; VERTICARIA

BELDINGI; C. HYPERTHRUS HYPERTHRUS.

DESCRIPTION AND DIAGNOSTIC CHARACTERISTICS: Stebbins, R. C. 1966. A
field guide to western reptiles and amphibians, p. 126

STEBBINS, 1966 FIELD GUIDE WEST REPT AMPHIB, P 126

ILLUSTRATIONS: Stebbins, R. C. 1966. A field guide to western
reptiles and amphibians, plate 27.

TAXONOMIC DISTINCTIVENESS:

CB CUTE
DSpecies is endemic to California and
Baja California. Some authors con-
sidered C. h. beldingi and C. h. hyperthrus
to be the same subspecies (Smith, 1946).OFFICIAL STATUS

FEDERAL PROTECTION:

CB CUTE
V

None

CALIFORNIA PROTECTION:

CB CUTE
V

None

C-2

DATA BASE PRIORITY:CB CUTE
3

NATURAL HISTORY

CALIFORNIA RANGE (SEE MAP): Extreme southwest California from inland valleys and plains at base of Transverse Ranges south to border and western coastal slopes of Peninsular Range

EXTREME SW CALIF.

west to coast.

TOTAL RANGE (IF DIFFERENT FROM ABOVE):

Northern Baja California.

N BAJA CALIF.

MIN. ELEV. 0 FEET

MAX. ELEV. 2800 FEET

HABITAT: Open, mosaic of alternating open & dense vegetation dominated by various chaparral & coastal sage scrub species. Occasionally found in grassland alluvial valley bottoms (McGurty, 1980). Found from sea level up to 900 m. Home range averages 0.1 acres (Bostic, 1965). Females lay eggs in areas of friable, well drained soil exposed to direct sunlight with adjacent regions of short grass and annuals (Bostic, 1965).

CHAPARRAL, COASTAL SAGE, OCCAS. IN GRASS

ALLUVIAL VALLEY BOTTOMS.

SPECIAL HABITAT REQUIREMENTS (IF ANY): No current information.

FOOD HABITS: Bostic (1966B) found that the western subterranean termite comprised 86% of the total numbers of all prey eaten. Other important food items were spiders, grasshoppers, cockroaches and moths. The numbers of eaten termites ranged from about 60% in March to 100% in September.

POPULATION NUMBERS AND TRENDS: No actual population numbers are known. About 65 to 75% of the historic distribution in San Diego Co. of the orange-throated whiptail has been replaced by development (McGurty, 1980). However, it is still locally abundant.

REPRODUCTIVE POTENTIAL: Females 2 years or older lay one clutch in June and another in mid July. The average clutch size is 2 eggs for yearlings and 3 eggs for older adults. The incubation period is 50-60 days (Bostic, 1966C).

	MONTH	DAY	
BREEDING SEASON-START:	5		
SEASON-END:	7		C-3



REASONS FOR DECLINE: Urban and agricultural development has destroyed habitat (McGurty, 1980).

SENSITIVITY TO HUMAN DISTURBANCE: No current information.

CURRENT PRESERVATION PROGRAM AND RECOMMENDATIONS: There is no preservation program. McGurty (1980) recommended the following:

- California should classify this species as endangered.
- Identify high quality representative habitats.
- Acquire prime habitats.

RESEARCH RECOMMENDED TO SUPPORT SPECIES CONSERVATION: (From McGurty, 1980)

1. Determine, identify and investigate regional differences in population densities, age class structures and reproductive rates.
2. Analyze sites for plant species diversity and canopy structure, predator-prey interactions, geology and microhabitat, climate, watersheds and erosion.
3. Evaluate effects of reduced size and diversity of gene pools and alterations of habitat by off-road vehicles and other activities.

DATA BASE STANDARDS AND CONVENTIONS:

DEFINITION OF ELEMENT OCCURRENCE/ MAPPING CONVENTIONS/BOUNDARY CONVENTIONS:

Areas documented to support a continuous population shall be mapped as a bounded area. Size and population density included in each Element Occurrence if available.

ESTIMATED STATE E.O.'S: ☐

ESTIMATED TOTAL E.O.'S: ☐

ESTIMATED STATE PROTECTED E.O.'S: ☐

RELATIVE THREAT OF DESTRUCTION: ☐

PERMANENCE RANK: ☐

SOURCES OF INFORMATION

MAJOR AUTHORITIES:

Dennis L. Bostic, Life Sci. Dept., Palomar College, San Marcos, CA.

Brian M. McGurty, Dept. of Biology, San Diego State Univ., San Diego, CA

MAJOR LITERATURE CITATIONS:

- Bostic, D. L. 1965. Home range of the teiid lizard Cnemidophorus hyperythrus beldingi (Sauria:Teiidae). Southwest. Nat. 10:278-281.
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- McGurty, B. M. 1980. Preliminary review of the status of the San Diego horned lizard, Phrynosoma coronatum blainvelleri, and the orange-throated whiptail, Cnemidophorus hyperythrus beldingi. Research contract from Calif. Dept. Fish Game. (draft.) 38p.
- Smith, H. M. 1946. Handbook of lizards. Cornell Univ. Press, Ithaca, N. Y., p. 428-430.

COMMENTS: Adults begin hibernating anytime from late July to September; immatures begin in December. They do not emerge until March-April (Bostic 1966A). San Diego Herpetological Society classifies this species as threatened (McGurty, 1980).

Date Compiled: 6/12/81

Compiler: D. Kleinsmith

Updater(s):

APPENDIX D

Energy Conservation Features

APPENDIX D

ENERGY CONSERVATION FEATURES

ENERGY CONSERVATION FEATURES FOR NEW CONSTRUCTION AND EXISTING UNITS

A. Energy-efficient equipment

1. Energy-efficient gas ranges with pilotless ignitions,
2. Energy-efficient gas built-in surface units with pilotless ignitions,
3. Energy-efficient gas built-in oven units with pilotless ignitions,
4. Energy-efficient gas water heaters
5. Energy-efficient gas forced air furnaces with pilotless ignitions,
6. Energy-efficient gas wall furnaces with automatic thermostats,
7. Energy-efficient gas clothes dryers with pilotless ignitions (per dwelling unit), and
8. Gas outlets for energy-efficient gas clothes dryers (single family and condominiums).

B. Energy-efficient support measures

1. Gas heating thermostats with setback capability,
2. Clogged-filter indicators for gas heating systems
3. Fireplace dampers with exposed handles,
4. Heat exchangers in fireplace or free-standing solid fuel units,
5. Humidifiers added to gas heating system, and
6. Flue dampers as integral part of forced air unit heating systems.

C. Energy-efficient construction

1. Double glazed windows and doors,
2. Glass area less than 12% of heated space,
3. Foam-filled (or equivalent) insulated exterior doors (per door),
4. Insulation in attic increased to R-22 or R-30,
5. Insulation in walls increased to R-19,
6. Slab perimeter insulation R-7 or greater,
7. Hot water pipe insulation of $\frac{1}{2}$ " or more in unheated areas,
8. R-7 or greater insulation installed under wood floors.

D. Energy-efficient Solar /Gas installations

1. Energy-efficient Solar/Gas water heating,
2. Energy-efficient Solar/Gas space heating,
3. Energy-efficient Solar/Gas pool heating (per rental or condo), and
4. Energy-efficient Solar/Gas pool heating (single dwelling) .

E. Energy-efficient electrical equipment

1. Air economizers in conjunction with cooling system,
2. Dishwashers with power saving drying cycles,
3. Air conditioning (central) or room units with Energy Efficiency Rating of 9 or more,
4. Fluorescent lighting fixtures in kitchen area,
5. Fluorescent lighting fixture in all baths, and
6. Fluorescent lighting fixtures in recreation room.

Source: Southern California Gas Company, 6/81

ENERGY CONSERVATION MEASURES FOR RESIDENTS

A. Heating

1. Keep room temperature at 65° or lower. Turn heating control down at night or when away from home. Install a thermostat with a night setback feature which does this automatically.
2. Draw daperies at night to limit heat loss, open them on sunny days to let the heat in.
3. Close damper when fireplace is not in use.
4. Check the furnace filter monthly, and replace it when dirty. To check filter, hold it to the light; if light does not pass through readily, replace filter. Cleaning is not recommended (unless equipped with a permanent filter).
5. Turn off furnace pilot at end of heating season.
6. Weatherstrip windows and doors,
7. Caulk cracks around windows and doors.

B. Water Heating

1. Take fast showers,
2. Repair leaky faucets,
3. Install water-saving showerheads which restrict water flow,
4. Operate dishwashers only for full loads,
5. Set water heater thermostat below "normal". Turn to "pilot" position when away for extended periods of time (one week or longer),
6. Use cold water for operating food waste disposer and for pre-rinsing dishes.
7. When handwashing dishes, avoid rinsing under continuous hot running water.
8. Insulate water heater with an insulation blanket.

C. Laundry

1. Wash and dry full loads of clothes, or adjust water level for the size of the load..
2. Wash clothes in warm or cold water.
3. Don't over-dry clothes, follow manufacturer's instructions for drying time.

4. Reduce burner flame to simmer after cooking starts.
5. Cook by time and temperature, avoid opening oven door while food is cooking.
6. Use one-place cooking when possible, prepare meals using only the oven, broiler, or top burner.
7. Check to make sure all burners are off when not in use.

Source: Southern California Gas Company, 6/81

APPENDIX E

Water Demand Reduction Methods

To reduce water demand, the following water conservation measures should be implemented:

Required by law:

1. Low-flush toilets (see Section 17921.3 of the Health and Safety Code).
2. Low-flow showers and faucets (California Administrative Code, Title 24, Part 6, Article 1, T20-1406F).
3. Insulation of hot water lines in water recirculating systems (California Energy Commission regulations).

Recommend be implemented where applicable:

Interior:

1. Supply line pressure: recommend water pressure greater than 50 pounds per square inch (psi) be reduced to 50 psi or less by means of a pressure reducing valve.
2. Flush valve operated water closets: recommend 3 gallons per flush.
3. Drinking fountains: recommend equipped with self-closing valves.
4. Pipe insulation: recommend all hot water lines in dwelling be insulated to provide hot water faster with less water waste, and to keep hot pipes from heating cold water pipes.
5. Hotel rooms: recommend posting conservation reminders in rooms and rest rooms*. Recommend thermostatically-controlled mixing valve for bath/shower.
6. Laundry facilities: recommend use of water-conserving models of washers.
7. Restaurants: recommend use of water-conserving models of dishwashers or retrofitting spray emitters. Recommend serving drinking water upon request only*.

Exterior:

1. Landscape with low water-consuming plants wherever feasible.
2. Minimize use of lawn by limiting it to lawn dependent uses, such as playing fields.
3. Use mulch extensively in all landscaped areas. Mulch applied on top of soil will improve the water-holding capacity of the soil by reducing evaporation and soil compaction.

*The Department of Water Resources or local water district may aid in developing these materials.

4. Preserve and protect existing trees and shrubs. Established plants are often adapted to low water conditions and their use saves water needed to establish replacement vegetation.
5. Install efficient irrigation systems which minimize runoff and evaporation and maximize the water which will reach the plant roots. Drip irrigation, soil moisture sensors and automatic irrigation systems are a few methods of increasing irrigation efficiency.
6. Use pervious paving material whenever feasible to reduce surface water runoff and aid in ground water recharge.
7. Grading of slopes should minimize surface water runoff.
8. Investigate the feasibility of utilizing reclaimed waste water, stored rainwater, or household gray water for irrigation.
9. Encourage cluster development which can reduce the amount of land being converted to urban use. This will reduce the amount of impervious paving created and thereby aid in ground water recharge.
10. Preserve existing natural drainage areas and encourage the incorporation of natural drainage systems in new developments. This would aid in ground water recharge.
11. Flood plains and aquifer recharge areas which are the best sites for ground water recharge should be preserved as open space.

Department of Water Resources Recommendations for Flood Damage Prevention

In flood-prone areas, flood damage prevention measures required to protect a proposed development should be based on the following guidelines:

1. All building structures should be protected against a 100-year flood.

It is the State's policy to conserve water. Any potential loss to ground water should be mitigated.

2. In those areas not covered by a Flood Insurance Rate Map or a Flood Boundary and Floodway Map, issued by the Federal Emergency Management Agency, the 100-year flood elevation and boundary should be shown on the Environmental Impact Report.
3. At least one route of ingress and egress to the development should be available during a 100-year flood.
4. The slope and foundation designs for all structures should be based on detailed soils and engineering studies, especially for hillside developments.
5. Revegetation of the slopes should be done as soon as possible.
6. The potential damage to the proposed development by mudflow should be assessed and mitigated as required.
7. Grading should be limited to dry months to minimize problems associated with sediment transport during construction.

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APPENDIX F

Traffic Level of Services Descriptions

LEVEL OF SERVICE DESCRIPTIONS

Level of Service	Traffic Quality	V/C Ratio
A	Level of Service A represents free flow. Individual users are virtually unaffected by the presence of others in the traffic stream. Freedom to select desired speeds and to maneuver within the traffic stream is extremely high. The general level of comfort and convenience provided to the motorist, passenger or pedestrian is excellent.	0.00 - 0.60
B	Level of Service B is in the range of stable flow, but the presence of other users in the traffic stream begins to be noticeable. Freedom to select desired speeds is relatively unaffected, but there is a slight decline in the freedom to maneuver within the traffic stream from LOS A. The level of comfort and convenience provided is somewhat less than at LOS A, because the presence of others in the traffic stream begins to affect individual behavior.	0.61 - 0.70
C	Level of Service C is in the range of stable flow, but marks the beginning of the range of flow in which the operation of individual users becomes significantly affected by interactions with others in the traffic stream. The selection of speed is now affected by the presence of others, and maneuvering within the traffic stream requires substantial vigilance on the part of the user. The general level of comfort and convenience declines noticeably at this level.	0.71 - 0.80
D	Level of Service D represents high-density, but stable, flow. Speed and freedom to maneuver are severely restricted, and the driver or pedestrian experiences a generally poor level of comfort and convenience. Small increases in traffic flow will generally cause operational problems at this level.	0.81 - 0.90

Level of Service	Traffic Quality	V/C Ratio
------------------	-----------------	-----------

E	<p>Level of Service E represents operating conditions at or near the capacity level. All speeds are reduced to a low, but relatively uniform value. Freedom to maneuver within the traffic stream is extremely difficult, and it is generally accomplished by forcing a vehicle or pedestrian to "give way" to accommodate such maneuvers. Comfort and convenience levels are extremely poor, and driver or pedestrian frustration is generally high. Operations at this level are usually unstable, because small increases in flow or minor perturbations within the traffic stream will cause breakdowns.</p>	1.00
F	<p>Level of Service F is used to define or breakdown flow. This condition exists wherever the amount of traffic approaching a point exceeds the amount which can traverse the point. Queues form behind such locations. Operations within the queue are characterized by stop-and-go waves, and they are extremely unstable. Vehicles may progress at reasonable speeds for several hundred feet or more, then be required to stop in a cyclic fashion. Level of Service F is used to describe the operating conditions within the queue, as well as the point of the breakdown. It should be noted, however, that in many cases operating conditions of vehicles or pedestrians discharged from the queue may be quite good. Nevertheless, it is the point at which arrival flow exceeds discharge flow which causes the queue to form, and Level of Service F is an appropriate designation for such points.</p>	

APPENDIX C

Census Data

SEE ENCLOSED MEMO FOR IMPORTANT NOTES

INDUSTRY	TOTAL POPULATION	TOTAL HOUSEHOLDS	TOTAL FAMILIES	FAMILY INCOME	WHITE FAMILIES	RACE & SEX BY LABOR FORCE
MANUFACTURING	8498	3033	2313	LESS THAN \$2500	69	WHITE MALES
CONSTRUCTION	4153			\$2500-\$3999	82	WHITE MALES
RETAIL TRADE				\$4000-\$5999	60	WHITE MALES
FINANCE				\$6000-\$7999	190	WHITE MALES
EDUCATION				\$8000-\$9999	218	WHITE MALES
HEALTH				\$10000-\$14999	259	WHITE MALES
ARTS				\$15000-\$19999	571	WHITE MALES
ENTERTAINMENT				\$20000-\$24999	462	WHITE MALES
RECREATION				\$25000-\$29999	160	WHITE MALES
TRANSPORTATION				\$30000-\$34999	0	WHITE MALES
COMMUNICATION				\$35000-\$39999	0	WHITE MALES
UTILITIES				\$40000-\$44999	0	WHITE MALES
MANUFACTURING				\$45000-\$49999	0	WHITE MALES
CONSTRUCTION				\$50000-\$54999	0	WHITE MALES
RETAIL TRADE				\$55000-\$59999	0	WHITE MALES
FINANCE				\$60000-\$64999	0	WHITE MALES
EDUCATION				\$65000-\$69999	0	WHITE MALES
HEALTH				\$70000-\$74999	0	WHITE MALES
ARTS				\$75000-\$79999	0	WHITE MALES
ENTERTAINMENT				\$80000-\$84999	0	WHITE MALES
RECREATION				\$85000-\$89999	0	WHITE MALES
TRANSPORTATION				\$90000-\$94999	0	WHITE MALES
COMMUNICATION				\$95000-\$99999	0	WHITE MALES
UTILITIES				\$100000-\$104999	0	WHITE MALES
MANUFACTURING				\$105000-\$109999	0	WHITE MALES
CONSTRUCTION				\$110000-\$114999	0	WHITE MALES
RETAIL TRADE				\$115000-\$119999	0	WHITE MALES
FINANCE				\$120000-\$124999	0	WHITE MALES
EDUCATION				\$125000-\$129999	0	WHITE MALES
HEALTH				\$130000-\$134999	0	WHITE MALES
ARTS				\$135000-\$139999	0	WHITE MALES
ENTERTAINMENT				\$140000-\$144999	0	WHITE MALES
RECREATION				\$145000-\$149999	0	WHITE MALES
TRANSPORTATION				\$150000-\$154999	0	WHITE MALES
COMMUNICATION				\$155000-\$159999	0	WHITE MALES
UTILITIES				\$160000-\$164999	0	WHITE MALES
MANUFACTURING				\$165000-\$169999	0	WHITE MALES
CONSTRUCTION				\$170000-\$174999	0	WHITE MALES
RETAIL TRADE				\$175000-\$179999	0	WHITE MALES
FINANCE				\$180000-\$184999	0	WHITE MALES
EDUCATION				\$185000-\$189999	0	WHITE MALES
HEALTH				\$190000-\$194999	0	WHITE MALES
ARTS				\$195000-\$199999	0	WHITE MALES
ENTERTAINMENT				\$200000-\$204999	0	WHITE MALES
RECREATION				\$205000-\$209999	0	WHITE MALES
TRANSPORTATION				\$210000-\$214999	0	WHITE MALES
COMMUNICATION				\$215000-\$219999	0	WHITE MALES
UTILITIES				\$220000-\$224999	0	WHITE MALES
MANUFACTURING				\$225000-\$229999	0	WHITE MALES
CONSTRUCTION				\$230000-\$234999	0	WHITE MALES
RETAIL TRADE				\$235000-\$239999	0	WHITE MALES
FINANCE				\$240000-\$244999	0	WHITE MALES
EDUCATION				\$245000-\$249999	0	WHITE MALES
HEALTH				\$250000-\$254999	0	WHITE MALES
ARTS				\$255000-\$259999	0	WHITE MALES
ENTERTAINMENT				\$260000-\$264999	0	WHITE MALES
RECREATION				\$265000-\$269999	0	WHITE MALES
TRANSPORTATION				\$270000-\$274999	0	WHITE MALES
COMMUNICATION				\$275000-\$279999	0	WHITE MALES
UTILITIES				\$280000-\$284999	0	WHITE MALES
MANUFACTURING				\$285000-\$289999	0	WHITE MALES
CONSTRUCTION				\$290000-\$294999	0	WHITE MALES
RETAIL TRADE				\$295000-\$299999	0	WHITE MALES
FINANCE				\$300000-\$304999	0	WHITE MALES
EDUCATION				\$305000-\$309999	0	WHITE MALES
HEALTH				\$310000-\$314999	0	WHITE MALES
ARTS				\$315000-\$319999	0	WHITE MALES
ENTERTAINMENT				\$320000-\$324999	0	WHITE MALES
RECREATION				\$325000-\$329999	0	WHITE MALES
TRANSPORTATION				\$330000-\$334999	0	WHITE MALES

 ** HSG: AREA PROFILE REPORT CENSUS DATA AS OF 1 APRIL 80 (PROGRAMMED 16 APRIL 82)
 ** LEVEL 4: FOR CITIES AND COUNTIES WITHIN STATE SCAG CENSUS DATA CENTER
 ** SCAG REGION EXCLUDING L.A. CO
 ** P=PARTIAL RECORD S=SUPPRESSED BY CENSUS BUREAU ?=VALUE NOT PRECISE SEE ENCLOSED MEMO FOR IMPORTANT NOTES

GRAND TERRACE CITY							
TOTAL POPULATION	8498	URBANIZED POP	8498	TOTAL POPULATION	3282	PERSONS IN UNIT	
RURAL POP	0	GO POP	153	IN FAMILY HH	4	OWNER OCCUPIED	
URBAN POP	8498	RENTER POP	1449	HOUSEHOLDER	3278	PERSON	210
				SPOUSE	2006	2 PERSONS	813
SEX BY AGE		ASIAN TOTAL	230	OTHER RELATIVE	3024	3 PERSONS	451
MALE TOTAL	4202	JAPANESE	34	NONRELATIVE	100	4 PERSONS	474
UNDER 5	346	CHINESE	69	IN NONFAMILY	905	5 PERSONS	206
5 - 14	675	FILIPINO	81	IN GROUP QUARTR	153	6 OR MORE	107
15 - 17	216	KOREAN	22	RELATED CHILDREN		RENTER OCCUPIED	
18 - 24	426	ASIAN IND.	9	UNDER 5 YEARS	598	PERSON	250
25 - 34	814	VIETNAMESE	4	5 TO 17 YEARS	1709	2 PERSONS	150
35 - 44	502	HAWAIIAN	9	POP NO PLUMBING	5	3 PERSONS	107
45 - 54	453	GUAMANIAN	0	POP OVERCROWDED	229	4 PERSONS	60
55 - 64	350	SAMOAN	2	POP BOTH ABOVE	0	5 PERSONS	30
65 +	310	NATIVE AMERICAN	57			6 OR MORE	11
FEMALE TOT	4296	AGE BY RACE		TOTAL HOUSEHOLDS	3024	MEAN PERSON/UNIT	2.44
UNDER 5	259	NONHISPANIC		W/MEMBR UNDER 18	1255	MEAN ROOMS/UNIT	5.70
5 - 14	632	WHITE		W/MEMBR 65+OVER	442	OWNER OCCUPIED	6.07
15 - 17	218	UNDER 5	425	HOUSEHOLD TYPE		VACANT FOR SALE	6.07
18 - 24	505	5 - 17	1349	ONE PERSON HH		RENTER OCCUPIED	4.73
25 - 34	867	18 - 64	4483	MALE HEAD	260	VACANT FOR RENT	4.50
35 - 44	575	65 +	689	FEMALE HEAD	309	OTHER VACANTS	5.66
45 - 54	439	BLACK		TWO OR MORE			
55 - 64	383	UNDER 5		MARRIED COUPLE	2006	ROOMS/UNIT	
65 +	438	5 - 17		SEPARATE SPOUSE	76	1 ROOM	0
POP MEDIAN AGE	30.00	18 - 64		FEMALE SPOUSE	229	2 ROOMS	61
MALE MEDIAN AGE	30.50	65 +		NONFAMILY HH	145	3 ROOMS	249
FEM MEDIAN AGE	31.10	ASIAN/AMER				4 ROOMS	395
		UNDER 5				5 ROOMS	720
MARITAL STATUS		5 - 17				6 OR MORE ROOM	1870
MALES 15 & OVER	3181	18 - 64		HH W/MEMBERS		PERSONS PER ROOM	
SINGLE	772	65 +		65 YEARS & OLDER		OWNER OCCUPIED	
MARRIED	2075	UNDER 5	130	OWNER HOUSING	374	1.00 OR LESS	2331
SEPARATED	46	5 - 17	287	RENTED HOUSING	50	1.01 - 1.50	27
WIDOWED	59	18 - 64	609			1.51 OR MORE	2
DIVORCED	230	65 +	27	HH W/NONRELATIVE	223	RENTER OCCUPIED	
FEM 15 & OVER	3405	RACE BY TENURE		TOTAL HOUSING	3282	1.00 OR LESS	653
SINGLE	669	HOMEOWNERS		URBAN HOUSING	3282	1.01 - 1.50	0
MARRIED	2079	NONHISPANIC		UPDANIZED HOUSNG	3282	1.51 OR MORE	2
SEPARATED	63	WHITE	2027	MEAN UNIT VALUE		UNIT NO PLUMBING	3
WIDOWED	292	BLACK		NONCONDOMINIUM		OWNER OCCUPIED	2
DIVORCED	302	OTHER		OCCUPIED	\$95.092	RENTER OCCUPIED	1
NONHISPANIC	7445	HISPANIC	226	FOR SALE ONLY	\$96.950		
WHITE	6946	RENTERS		CONDOMINIUM		OVERCROWDED W/NO	
BLACK	161	NONHISPANIC	557	OCCUPIED	165.013	PRIVATE PLUMBING	
ASIAN/AMER	266	WHITE		FOR SALE ONLY		OWNER	0
OTHER	72	BLACK		MEAN RENT		RENTER	0
HISPANIC	1053	OTHER	63	RENTER OCCUPIED	3277		
MEXICAN	355	HISPANIC		VACANT FOR RENT	3263	FOR RENT FOR 2H	7
Puerto Rican	8					FOR SALE FOR GH	34
QUEB	16						
OTHER	174						

1980 CENSUS AREA PROFILE REPORT
 LEVEL: ALL FOR CITIES AND COUNTIES WITHIN STATE
 STATE OF CALIFORNIA

CENSUS DATA AS OF 1 APRIL 80 (PROGRAMMED 16 APRIL 82) **
 SCAG CENSUS DATA CENTER **

PARTIAL RECORD S=SUPPRESSED BY CENSUS BUREAU ?=VALUE NOT PRECISE

SEE ENCLOSED MEMO FOR IMPORTANT NOTES **

PENNINGTON COUNTY		TOTAL POPULATION		TOTAL HOUSING		PERSONS IN UNIT	
TOTAL POP		38830		370155		OWNER OCCUPIED	
CITY POP		895316		4019		PERSON	
CITY POP		33830		366136		2 PERSONS	
CITY POP		895186		220997		3 PERSONS	
CITY POP		895186		210997		4 PERSONS	
CITY POP		895186		107579		5 PERSONS	
CITY POP		895186		97646		6 OR MORE	
CITY POP		895186		9933		RENTER OCCUPIED	
CITY POP		895186		29403		PERSON	
CITY POP		895186		8257		2 PERSONS	
CITY POP		895186		6744		3 PERSONS	
CITY POP		895186		2786		4 PERSONS	
CITY POP		895186		1307		5 PERSONS	
CITY POP		895186		1883		6 OR MORE	
CITY POP		895186		971		MEAN PERSON/UNIT	
CITY POP		895186		6		MEDIAN PERSON/UT	
CITY POP		895186		1392		MEAN ROOMS/UNIT	
CITY POP		895186		2791		OWNER OCCUPIED	
CITY POP		895186		3328		VACANT FOR SALE	
CITY POP		895186		4483		RENTER OCCUPIED	
CITY POP		895186		4465		VACANT FOR RENT	
CITY POP		895186		6345		OTHER VACANTS	
CITY POP		895186		7750		ROOMS/UNIT	
CITY POP		895186		22439		1 ROOM	
CITY POP		895186		74908		2 ROOMS	
CITY POP		895186		20865		3 ROOMS	
CITY POP		895186		15577		4 ROOMS	
CITY POP		895186		3450		5 ROOMS	
CITY POP		895186		2026		6 OR MORE ROOM	
CITY POP		895186		363,400		PERSONS PER ROOM	
CITY POP		895186		421		OWNER OCCUPIED	
CITY POP		895186		5074		1.00 OR LESS	
CITY POP		895186		3085		1.01 - 1.50	
CITY POP		895186		4680		1.51 OR MORE	
CITY POP		895186		1861		RENTER OCCUPIED	
CITY POP		895186		4082		1.00 OR LESS	
CITY POP		895186		3733		1.01 - 1.50	
CITY POP		895186		10949		1.51 OR MORE	
CITY POP		895186		19284		UNIT NO PLUMBING	
CITY POP		895186		16124		OWNER OCCUPIED	
CITY POP		895186		12355		RENTER OCCUPIED	
CITY POP		895186		4160		OVERCROWDED W/NO	
CITY POP		895186		1053		PRIVATE PLUMBING	
CITY POP		895186		2417		OWNER	
CITY POP		895186		4223		RENTER	
CITY POP		895186		3920		BOARDED UP	
CITY POP		895186		1913			

C-4

63 6301 EMPLOYMENT AND INCOME CHARACTERISTICS 41
 64 LEVEL BY FOR PLACES AND COUNTIES WITHIN STATE
 65 SCAG REGION
 66 PARTIAL RECORD S=SUPPRESSED BY CENSUS BUREAU 7=VALUE NOT PRECISE
 CENSUS DATA AS OF 1 APRIL 80
 SCAG CENSUS DATA CENTER
 SEE ENCLOSED MEMO FOR IMPORTANT NOTES

POPULATION	895016	TOTAL HOUSEHOLDS	309231	TOTAL FAMILIES	236480	RACE/FAM INCOME	RACE & SEX BY
POP EMPLOYMENT	351833					**WHITE FAMILIES	LABOR FORCE
		HOUSEHOLDS WITH		FAMILY INCOME		LESS THAN \$5000	:WHITE VS NON
		FOLLOWING INCOME		LESS THAN \$2500	6715	\$5000- \$7499	**WHITE MALES**
		LESS THAN \$2500	11822	\$2500- \$4999	9259	\$7500- \$9999	ARMED FORCES
INDUSTRY		\$2500- \$4999	24856	\$5000- \$7499	14719	\$10000- \$14999	CIV EMPLOYED
AGRICULTURE	9124	\$5000- \$7499	23912	\$7500- \$9999	37119	\$15000- \$19999	CIV UNEMPLOYED
CONSTRUCTION	27107	\$7500- \$9999	25516	\$12500- \$14999	15493	\$20000- \$24999	NONLABOR FORCE
MANUFACTURING		\$10000- \$12499	25894	\$15000- \$17499	18193	\$25000- \$34999	**WHITE FEMALES*
NONDURABLE	16421	\$12500- \$14999	19735	\$17500- \$19999	16552	\$35000- \$49999	ARMED FORCES
DURABLE	46443	\$15000- \$17499	32935	\$20000- \$24999	15375	\$50000 OR MORE	CIV EMPLOYED
TRANSPORTATION	12513	\$17500- \$19999	20340	\$25000- \$34999	15519	**BLACK FAMILIES	CIV UNEMPLOYED
COMMUNICATION	12247	\$20000- \$24999	23045	\$35000- \$49999	16072	LESS THAN \$5000	NONLABOR FORCE
RETAIL TRADE	12555	\$25000- \$29999	17749	\$50000- \$74999	11763	\$5000- \$7499	**NONWHITE MALES
WHOLESALE TRADE	68526	\$30000- \$34999	18357	\$75000- \$99999	15347	\$7500- \$9999	ARMED FORCES
REPAIR	12255	\$35000- \$39999	12097	\$100000- \$149999	12759	\$10000- \$14999	CIV EMPLOYED
REPAIR	12255	\$40000- \$44999	21595	\$150000- \$199999	12573	\$15000- \$19999	CIV UNEMPLOYED
REPAIR	12255	\$45000- \$49999	14147	\$200000- \$249999	7591	\$20000- \$24999	NONLABOR FORCE
REPAIR	12255	\$50000- \$54999	14250	\$250000- \$299999	2041	\$25000- \$34999	**NONWHITE FEM**
REPAIR	12255	\$55000- \$59999	9522	\$300000- \$349999	20039	\$35000- \$49999	ARMED FORCES
REPAIR	12255	\$60000- \$64999	3147	\$350000- \$399999		\$50000 OR MORE	CIV EMPLOYED
REPAIR	12255	\$65000- \$69999		\$400000- \$449999		**ASIAN IND FAM**	CIV UNEMPLOYED
REPAIR	12255	\$70000- \$74999		\$450000- \$499999		LESS THAN \$5000	NONLABOR FORCE
REPAIR	12255	\$75000- \$79999		\$500000- \$549999		\$5000- \$7499	HISPANIC ETHNIC
REPAIR	12255	\$80000- \$84999		\$550000- \$599999		\$7500- \$9999	E SEX BY LABOR
REPAIR	12255	\$85000- \$89999		\$600000- \$649999		\$10000- \$14999	FORCE STATUS
REPAIR	12255	\$90000- \$94999		\$650000- \$699999		\$15000- \$19999	:HISPANIC VS NON
REPAIR	12255	\$95000- \$99999		\$700000- \$749999		\$20000- \$24999	NONHISPANIC MALE
REPAIR	12255	\$100000- \$104999		\$750000- \$799999		\$25000- \$29999	ARMED FORCES
REPAIR	12255	\$105000- \$109999		\$800000- \$849999		\$30000- \$34999	CIV EMPLOYED
REPAIR	12255	\$110000- \$114999		\$850000- \$899999		\$35000- \$39999	CIV UNEMPLOYED
REPAIR	12255	\$115000- \$119999		\$900000- \$949999		\$40000- \$44999	NONLABOR FORCE
REPAIR	12255	\$120000- \$124999		\$950000- \$999999		\$45000- \$49999	NONHISPANIC FEM
REPAIR	12255	\$125000- \$129999		\$1000000- \$1049999		\$50000 OR MORE	ARMED FORCES
REPAIR	12255	\$130000- \$134999		\$1050000- \$1099999		**HISPANIC FAM**	CIV EMPLOYED
REPAIR	12255	\$135000- \$139999		\$1100000- \$1149999		LESS THAN \$5000	CIV UNEMPLOYED
REPAIR	12255	\$140000- \$144999		\$1150000- \$1199999		\$5000- \$7499	NONLABOR FORCE
REPAIR	12255	\$145000- \$149999		\$1200000- \$1249999		\$7500- \$9999	HISPANIC FEM
REPAIR	12255	\$150000- \$154999		\$1250000- \$1299999		\$10000- \$14999	ARMED FORCES
REPAIR	12255	\$155000- \$159999		\$1300000- \$1349999		\$15000- \$19999	CIV EMPLOYED
REPAIR	12255	\$160000- \$164999		\$1350000- \$1399999		\$20000- \$24999	CIV UNEMPLOYED
REPAIR	12255	\$165000- \$169999		\$1400000- \$1449999		\$25000- \$29999	NONLABOR FORCE
REPAIR	12255	\$170000- \$174999		\$1450000- \$1499999		\$30000- \$34999	NONHISPANIC MALES
REPAIR	12255	\$175000- \$179999		\$1500000- \$1549999		\$35000- \$39999	ARMED FORCES
REPAIR	12255	\$180000- \$184999		\$1550000- \$1599999		\$40000- \$44999	CIV EMPLOYED
REPAIR	12255	\$185000- \$189999		\$1600000- \$1649999		\$45000- \$49999	CIV UNEMPLOYED
REPAIR	12255	\$190000- \$194999		\$1650000- \$1699999		\$50000 OR MORE	NONLABOR FORCE
REPAIR	12255	\$195000- \$199999		\$1700000- \$1749999		**HISPANIC FAM**	HISPANIC FEM
REPAIR	12255	\$200000- \$204999		\$1750000- \$1799999		LESS THAN \$5000	ARMED FORCES
REPAIR	12255	\$205000- \$209999		\$1800000- \$1849999		\$5000- \$7499	CIV EMPLOYED
REPAIR	12255	\$210000- \$214999		\$1850000- \$1899999		\$7500- \$9999	CIV UNEMPLOYED
REPAIR	12255	\$215000- \$219999		\$1900000- \$1949999		\$10000- \$14999	NONLABOR FORCE
REPAIR	12255	\$220000- \$224999		\$1950000- \$1999999		\$15000- \$19999	HISPANIC FEM
REPAIR	12255	\$225000- \$229999		\$2000000- \$2049999		\$20000- \$24999	ARMED FORCES
REPAIR	12255	\$230000- \$234999		\$2050000- \$2099999		\$25000- \$29999	CIV EMPLOYED
REPAIR	12255	\$235000- \$239999		\$2100000- \$2149999		\$30000- \$34999	CIV UNEMPLOYED
REPAIR	12255	\$240000- \$244999		\$2150000- \$2199999		\$35000- \$39999	NONLABOR FORCE
REPAIR	12255	\$245000- \$249999		\$2200000- \$2249999		\$40000- \$44999	NONHISPANIC MALES
REPAIR	12255	\$250000- \$254999		\$2250000- \$2299999		\$45000- \$49999	ARMED FORCES
REPAIR	12255	\$255000- \$259999		\$2300000- \$2349999		\$50000 OR MORE	CIV EMPLOYED
REPAIR	12255	\$260000- \$264999		\$2350000- \$2399999		**HISPANIC FAM**	CIV UNEMPLOYED
REPAIR	12255	\$265000- \$269999		\$2400000- \$2449999		LESS THAN \$5000	NONLABOR FORCE
REPAIR	12255	\$270000- \$274999		\$2450000- \$2499999		\$5000- \$7499	HISPANIC FEM
REPAIR	12255	\$275000- \$279999		\$2500000- \$2549999		\$7500- \$9999	ARMED FORCES
REPAIR	12255	\$280000- \$284999		\$2550000- \$2599999		\$10000- \$14999	CIV EMPLOYED
REPAIR	12255	\$285000- \$289999		\$2600000- \$2649999		\$15000- \$19999	CIV UNEMPLOYED
REPAIR	12255	\$290000- \$294999		\$2650000- \$2699999		\$20000- \$24999	NONLABOR FORCE
REPAIR	12255	\$295000- \$299999		\$2700000- \$2749999		\$25000- \$29999	NONHISPANIC MALES
REPAIR	12255	\$300000- \$304999		\$2750000- \$2799999		\$30000- \$34999	ARMED FORCES
REPAIR	12255	\$305000- \$309999		\$2800000- \$2849999		\$35000- \$39999	CIV EMPLOYED
REPAIR	12255	\$310000- \$314999		\$2850000- \$2899999		\$40000- \$44999	CIV UNEMPLOYED
REPAIR	12255	\$315000- \$319999		\$2900000- \$2949999		\$45000- \$49999	NONLABOR FORCE
REPAIR	12255	\$320000- \$324999		\$2950000- \$2999999		\$50000 OR MORE	NONHISPANIC MALES
REPAIR	12255	\$325000- \$329999		\$3000000- \$3049999		**HISPANIC FAM**	ARMED FORCES
REPAIR	12255	\$330000- \$334999		\$3050000- \$3099999		LESS THAN \$5000	CIV EMPLOYED
REPAIR	12255	\$335000- \$339999		\$3100000- \$3149999		\$5000- \$7499	CIV UNEMPLOYED
REPAIR	12255	\$340000- \$344999		\$3150000- \$3199999		\$7500- \$9999	NONLABOR FORCE
REPAIR	12255	\$345000- \$349999		\$3200000- \$3249999		\$10000- \$14999	HISPANIC FEM
REPAIR	12255	\$350000- \$354999		\$3250000- \$3299999		\$15000- \$19999	ARMED FORCES
REPAIR	12255	\$355000- \$359999		\$3300000- \$3349999		\$20000- \$24999	CIV EMPLOYED
REPAIR	12255	\$360000- \$364999		\$3350000- \$3399999		\$25000- \$29999	CIV UNEMPLOYED
REPAIR	12255	\$365000- \$369999		\$3400000- \$3449999		\$30000- \$34999	NONLABOR FORCE
REPAIR	12255	\$370000- \$374999		\$3450000- \$3499999		\$35000- \$39999	NONHISPANIC MALES
REPAIR	12255	\$375000- \$379999		\$3500000- \$3549999		\$40000- \$44999	ARMED FORCES
REPAIR	12255	\$380000- \$384999		\$3550000- \$3599999		\$45000- \$49999	CIV EMPLOYED
REPAIR	12255	\$385000- \$389999		\$3600000- \$3649999		\$50000 OR MORE	CIV UNEMPLOYED
REPAIR	12255	\$390000- \$394999		\$3650000- \$3699999		**HISPANIC FAM**	NONLABOR FORCE
REPAIR	12255	\$395000- \$399999		\$3700000- \$3749999		LESS THAN \$5000	HISPANIC FEM
REPAIR	12255	\$400000- \$404999		\$3750000- \$3799999		\$5000- \$7499	ARMED FORCES
REPAIR	12255	\$405000- \$409999		\$3800000- \$3849999		\$7500- \$9999	CIV EMPLOYED
REPAIR	12255	\$410000- \$414999		\$3850000- \$3899999		\$10000- \$14999	CIV UNEMPLOYED
REPAIR	12255	\$415000- \$419999		\$3900000- \$3949999		\$15000- \$19999	NONLABOR FORCE
REPAIR	12255	\$420000- \$424999		\$3950000- \$3999999		\$20000- \$24999	NONHISPANIC MALES
REPAIR	12255	\$425000- \$429999		\$4000000- \$4049999		\$25000- \$29999	ARMED FORCES
REPAIR	12255	\$430000- \$434999		\$4050000- \$4099999		\$30000- \$34999	CIV EMPLOYED
REPAIR	12255	\$435000- \$439999		\$4100000- \$4149999		\$35000- \$39999	CIV UNEMPLOYED
REPAIR	12255	\$440000- \$444999		\$4150000- \$4199999		\$40000- \$44999	NONLABOR FORCE
REPAIR	12255	\$445000- \$449999		\$4200000- \$4249999		\$45000- \$49999	NONHISPANIC MALES
REPAIR	12255	\$450000- \$454999		\$4250000- \$4299999		\$50000 OR MORE	ARMED FORCES
REPAIR	12255	\$455000- \$459999		\$4300000- \$4349999		**HISPANIC FAM**	CIV EMPLOYED
REPAIR	12255	\$460000- \$464999		\$4350000- \$4399999		LESS THAN \$5000	CIV UNEMPLOYED
REPAIR	12255	\$465000- \$469999		\$4400000- \$4449999		\$5000- \$7499	NONLABOR FORCE
REPAIR	12255	\$470000- \$474999		\$4450000- \$4499999		\$7500- \$9999	HISPANIC FEM
REPAIR	12255	\$475000- \$479999		\$4500000- \$4549999		\$10000- \$14999	ARMED FORCES
REPAIR	12255	\$480000- \$484999		\$4550000- \$4599999		\$15000- \$19999	CIV EMPLOYED
REPAIR	12255	\$485000- \$489999		\$4600000- \$4649999		\$20000- \$24999	CIV UNEMPLOYED
REPAIR	12255	\$490000- \$494999		\$4650000- \$4699999		\$25000- \$29999	NONLABOR FORCE
REPAIR	12255	\$495000- \$499999		\$4700000- \$4749999		\$30000- \$34999	NONHISPANIC MALES
REPAIR	12255	\$500000- \$504999		\$4750000- \$4799999		\$35000- \$39999	ARMED FORCES
REPAIR	12255	\$505000- \$509999		\$4800000- \$4849999		\$40000- \$44999	CIV EMPLOYED
REPAIR	12255	\$510000- \$514999		\$4850000- \$4899999		\$45000- \$49999	CIV UNEMPLOYED
REPAIR	12255	\$515000- \$519999		\$4900000- \$4949999		\$50000 OR MORE	NONLABOR FORCE
REPAIR	12255	\$520000- \$524999		\$4950000- \$4999999		**HISPANIC FAM**	HISPANIC FEM
REPAIR	12255	\$525000- \$529999		\$5000000- \$5049999		LESS THAN \$5000	ARMED FORCES
REPAIR	12255	\$530000- \$534999		\$5050000- \$5099999		\$5000- \$7499	CIV EMPLOYED
REPAIR	12255	\$535000- \$539999		\$5100000- \$5149999		\$7500- \$9999	CIV UNEMPLOYED
REPAIR	12255	\$540000- \$544999		\$5150000- \$5199999		\$10000- \$14999	NONLABOR FORCE
REPAIR	12255	\$545000- \$549999		\$5200000- \$5249999		\$15000- \$19999	NONHISPANIC MALES
REPAIR	12255	\$550000- \$554999		\$5250000- \$5299999		\$20000- \$24999	ARMED FORCES
REPAIR	12255	\$555000- \$559999		\$5300000- \$5349999		\$25000- \$29999	CIV EMPLOYED
REPAIR	12255	\$560000- \$564999		\$5350000- \$5399999		\$30000- \$34999	CIV UNEMPLOYED
REPAIR	12255	\$565000- \$569999		\$5400000- \$5449999		\$35000- \$39999	NONLABOR FORCE
REPAIR	12255	\$570000- \$574999		\$5450000- \$5499999		\$40000- \$44999	NONHISPANIC MALES
REPAIR	12255	\$575000- \$579999		\$5500000- \$5549999		\$45000- \$49999	ARMED FORCES
REPAIR	12255	\$580000- \$584999		\$5550000- \$5599999		\$50000 OR MORE	CIV EMPLOYED
REPAIR	12255	\$585000- \$589999		\$5600000- \$5649999		**HISPANIC FAM**	CIV UNEMPLOYED
REPAIR	12255	\$590000- \$594999		\$5650000- \$5699999		LESS THAN \$5000	NONLABOR FORCE
REPAIR	12255	\$595000- \$599999		\$5700000- \$5749999		\$5000- \$7499	

1980 HOUSING CHARACTERISTICS

LEVEL III FOR PLACES AND COUNTIES WITHIN STATE

SCAG REGION

P=PARTIAL RECORD S=SUPPRESSED BY CENSUS BUREAU ?=VALUE NOT PRECISE

CENSUS DATA AS OF 1 APRIL 80

SCAG CENSUS DATA CENTER

SEE ENCLOSED MEMO FOR IMPORTANT NOTES

SAN JERNARDINO		WATER SOURCE		UNITS/STRUCTURE		TENURE/OCCUPANCY		TENURE/BEDROOMS	
TOTAL HOUSING		370155		**TOT YR-ROUND**		BY YR UNIT BUILT		**TOT YR-ROUND**	
DETACHED HOUSING		210060		1. DETACHED		266560	**TOT YR-ROUND**	NONE	
SEMI-DETACHED HOUSING		50736		1. ATTACHED		10945	1979-4/1980	1	7865
URBAN HOUSING		319369		2 UNITS		7940	1975-1978	2	51829
				3 & 4 UNITS		17157	1970-1974	3	126525
TOTAL HOUSING		370155		5 OR MORE		38029	1960-1959	4	127128
SEASONAL HOUSING		350	SEWAGE DISPOSAL	MOBILE HOME		25614	1950-1959	5 OR MORE	48000
YEAR-ROUND HOUSING		369805	PUBLIC SEWER	*RENTER OCCUPIED		40962	1940-1949	*RENTER OCCUPIED	4890
RENTAL HOUSING		197663	SEPTIC TANK	1. DETACHED		7255	1939 OR BEFORE	ACNE	3402
OCCUPIED		97444	OTHER MEANS	1. ATTACHED		5540	*RENTER OCCUPIED	1	27571
FOR RENT		10019		2 UNITS		12429	1979-4/1980	2	43685
UNIT HOUSING		210060	HEATING FUEL	3 & 4 UNITS		28048	1975-1978	3	17789
OCCUPIED		210060	UTILITY GAS	5 OR MORE		3410	1970-1974	4	4355
FOR SALE		9853	BOTTLED/LP GAS	MOBILE HOME		102181	1960-1959	5 OR MORE	4432
OTHER VACANT		27730	ELECTRICITY	*OWNER OCCUPIED*		2683	1950-1959	*OWNER OCCUPIED*	1026
RECREATIONAL USE		24110	FUEL OIL	1. DETACHED		1474	1940-1949	NONE	13075
OTHER VACANTS		9300	COAL/COKE	1. ATTACHED		2184	1939 OR BEFORE	1	60430
			NO FUEL USED	2 UNITS		4053	*OWNER OCCUPIED*	2	92921
MEAN 2Y/STRUCTURE		5	OTHER FUEL	3 & 4 UNITS		18464	1979-4/1980	3	35025
			NO FUEL USED	5 OR MORE		2793	1975-1978	4	5821
				MOBILE HOME		29	1970-1974	5 OR MORE	
HEATING CO. UNIT		2464	COOKING FUEL	UNITS/STRUCTURE			1960-1959	TENURE/BATHROOM	
SEMI-DETACHED		166560	UTILITY GAS	VACANT SEASONAL			1950-1959	**TOT YR-ROUND**	
CENTRAL HEAT		3700	BOTTLED/LP GAS	MIGRATORY UNITS			1940-1939	NO BATH/HALF	775
ELECTRIC HEAT		17489	ELECTRICITY	1. DETACHED		2793	1939 OR BEFORE	COMPLETE BATH	162051
FURNACE FURNACE		92420	OTHER	1. ATTACHED		29		1 BATH + HALF	54002
NO HEAT/COOL		41114	NO FUEL USED	2 UNITS		60		2 OR MORE BATH	138430
NO HEAT/COOL		4009		3 & 4 UNITS		34		*RENTER OCCUPIED	
ELECTRIC		13102	WATER HEAT FUEL	5 OR MORE		147	1979-4/1980	NO BATH/HALF	2122
NO HEAT		2470	UTILITY GAS	UNITS/STRUCTURE		947	1975-1978	COMPLETE BATH	70024
			BOTTLED/LP GAS	VACANT SEASONAL			1970-1974	1 BATH + HALF	10217
			ELECTRICITY	MIGRATORY UNITS			1960-1959	2 OR MORE BATH	15201
			FUEL OIL	1. DETACHED			1950-1959	*OWNER OCCUPIED*	
			OTHER	1. ATTACHED			1949 OR BEFORE	NO BATH/HALF	1324
			NO FUEL USED	2 UNITS			*RENTER OCCUPIED	COMPLETE BATH	67907
NO HEAT UNITS		17385		3 & 4 UNITS			1979-4/1980	1 BATH + HALF	25730
NO HEAT UNITS		265		5 OR MORE			1975-1978	2 OR MORE BATH	105906
NO HEAT UNITS		229254	UNITS W/KITCHEN	UNITS/STRUCTURE			1970-1974	TENURE/TELEPHONE	
NO HEAT UNITS		11114	FACILITIES	VACANT SEASONAL			1960-1959	**TOT OCCUPIED**	
			UNITS WITHOUT	MIGRATORY UNITS			1950-1959	WITH TELEPHONE	290402
				1. DETACHED		125129	1949 OR BEFORE	WITHOUT TELEPHONE	10161
				1. ATTACHED		19250	*RENTER OCCUPIED	*RENTER OCCUPIED	
				2 UNITS		12762	1979-4/1980	WITH TELEPHONE	84000
				3 & 4 UNITS		30123	1975-1978	WITHOUT TELEPHONE	13644
				5 OR MORE		57442	1970-1974	*OWNER OCCUPIED*	
				MOBILE HOME		6641	1960-1959	WITH TELEPHONE	20462
				OWNER OCCUPIED		55562	1950-1959	WITHOUT TELEPHONE	4531
				1. DETACHED		6337	1949 OR BEFORE		
				1. ATTACHED		2691	1979-4/1980		
				2 UNITS		6740	1975-1978		
				3 & 4 UNITS		12203	1970-1974		
				MOBILE HOME		35662	1960-1959		
							1950-1959		
							1949 OR BEFORE		

CENSUS DATA AS OF 1 APRIL 8044
SCAG CENSUS DATA CENTER 44

SEE ENCLOSED MEMO FOR IMPORTANT NOTES

POPULATION BY SEX AND RACE		POPULATION BY AGE		POPULATION BY LANGUAGE		HOUSEHOLDS WITH		NONFAMILY HH	
TOTAL POPULATION		AT HOME BY AGE		SPOKEN		FEMALE HEAD:		W/INCOME BELOW	
TOTAL HOUSEHOLDS		5 TO 17 YEARS		ENGLISH ONLY		*ABOVE POVERTY		POVERTY LEVEL	
PERSONS IN HH	60163	MALE NO SPOUSE	391	ENGLISH ONLY	168423	UNDER 6 YRS	2279	HEAD 15-64 YR	7524
ONE	55166	W/CHILDREN	285	SPANISH SPOKEN	17995	BETWEEN 6-17	9622	HEAD OVER 64	3691
TWO	54032	WITHOUT	2249	SPEAK ENGLIS	3116	W/BOTH AGES	1839	W/INCOME BETWEEN	
THREE	51135	W/CHILDREN	785	NOT SPOKEN	4136	WITHOUT CHILD	7332	100-124% PCVETY	
FOUR	26044	WITHOUT	3163	OTHER LANGUAGE	604	*BELOW POVERTY		HEAD 15-64 YRS	3078
FIVE	17341	BLACK NONFAM HH		SPEAK ENGLIS	516579	WITH CHILDREN		HEAD OVER 64	4833
SIX OR MORE				NOT SPOKEN		UNDER 6 YRS	2385	W/INCOME OVER	
				18 YRS AND OLDER		BETWEEN 6-17	4185	125% OF POVERTY	
POP BY HH TYPE				ENGLISH ONLY		W/ BOTH AGES	2434	HEAD 15-64 YRS	37669
IN RELATIONSHIP				SPANISH SPOKEN		WITHOUT CHILD	692	HEAD OVER 64	15756
IN FAMILY HH	236680	AMER IND FAM HH		SPEAK ENGLIS	62661			UNRELATED	
HOUSEHOLDS	196075	MARRIED COUPLE	1336	NOT SPOKEN	13467	FAMILIES WITH		INDIVIDUALS	
SPOUSE	338157	W/CHILDREN	732	OTHER LANGUAGE	26605	RELATED CHILDREN		ABOVE POVERTY	
CHILD/RELATIVE	12163	WITHOUT	61	SPEAK ENGLIS	3352	*ABOVE POVERTY		15-64 YEARS	56122
NONRELATIVES		MALE NO SPOUSE	372	NOT SPOKEN		W/CHILD <6 YRS	25190	OVER 64 YRS	21705
IN NONFAMILY HH	32721	W/CHILDREN	134	PLACE OF BIRTH		W/CHILD 6-17	67917	BELOW POVERTY	
MALE HEAD	35830	WITHOUT	795	NATIVE BORN	429530	W/BOTH AGES	23578	15-64 YEARS	16289
FEMALE HEAD	16101	A IND NONFAM HH		RESIDENT STATE	387975	*BELOW POVERTY		OVER 64 YRS	4003
NONRELATIVES		ASIAN FAMILY HH		OTHER STATE	8571	W/CHILD <6 YRS	4342	POP IN FAMILIES	
IN GROUP QUARTER	12626	MARRIED COUPLE	1584	BORN ABROAD	68540	W/CHILD 6-17	8104	EXCLUDING HEAD	
HOUSE	10613	W/CHILDREN	979	FOREIGN BORN		W/ BOTH AGES	4852	ABOVE POVERTY	
OTHER		WITHOUT	29	POP ABOVE POVERT		FAMILIES WITH		R/CHILD UNDER 5	61975
TOTAL FAMILY HH	103581	MALE NO SPOUSE	65	UNDER 55 YEARS	624723	INCOME OVER 100%		R/CHILD 5 YRS	11661
MARRIED COUPLE	93925	W/CHILDREN	311	55 - 59	37835	OF POVERTY LEVEL		R/CHILD 6-17	120650
W/CHILDREN	4167	WITHOUT	179	60 - 64	32267	HEAD 15-64 YR	185488	OTHER MEMBER	25561
WITHOUT	4235	FEMALE NO SPOUSE	708	OVER 65 YEARS	78040	HEAD OVER 65	29623	BELOW POVERTY	
MALE NO SPOUSE	26790	W/CHILDREN		POP BELOW POVERT		TOTAL POPULATION		R/CHILD UNDER 5	12634
W/CHILDREN	9478	WITHOUT		UNDER 55 YEARS	83206	ABOVE POVERTY	772865	R/CHILD 5 YRS	2262
WITHOUT	72551	ASIA NONFAM HH		55 - 59	3219	BELOW POVERTY	96276	R/CHILD 6-17	23843
TOTAL NONFAMILY HH		HISPANIC FAM HH		60 - 64	3033	TOTAL WHITE POP		OTHER MEMBER	15672
WHITE FAMILY HH		MARRIED COUPLE	21330	OVER 65 YEARS	6918	ABOVE POVERTY	657691	TOTAL FAMILIES	
MARRIED COUPLE	85472	W/CHILDREN	8145	TOTAL HOUSEHOLDS		BELOW POVERTY	68537	W/INCOME < 75%	
W/CHILDREN	86351	WITHOUT		*ABOVE POVERTY		TOTAL BLACK POP		OF POVERTY LEVEL	61294
WITHOUT		MALE NO SPOUSE	939	WITH CHILD		ABOVE POVERTY	34651	W/INCOME 75-124%	
MALE NO SPOUSE	3142	W/CHILDREN	867	UNDER 6 YRS	30479	BELOW POVERTY	9052	OF POVERTY LEVEL	75542
W/CHILDREN	3436	WITHOUT		BETWEEN 6-17	61790	TOT AMER IND POP		W/INCOM 125-149%	
WITHOUT		FEMALE NO SPOUSE	4395	90TH AGES	24418	ABOVE POVERTY	9265	OF POVERTY LEVEL	44070
FEMALE NO SPOUSE	15565	W/CHILDREN	1590	WITHOUT CHILD	98426	BELOW POVERTY	2277	W/INCOM 150-199%	
W/CHILDREN	5105	WITHOUT		*BELOW POVERTY		TOTAL ASIAN POP		OF POVERTY LEVEL	90300
WITHOUT	55288	HISPAN NONFAM HH	5672	WITH CHILD		ABOVE POVERTY	14223	W/INCOME 200% +	
				UNDER 6 YRS	5133	BELOW POVERTY	2181	OF PVTY LEVEL	591921
				BETWEEN 6-17	7074	TOTAL HISPANIC			
				BOTH AGES	5391	ABOVE POVERTY	134120		
				WITHOUT CHILD	4271	BELOW POVERTY	27911		

 ** REOS AGE, SEX, RACE, ETHNIC COMPOSITION OF THE POPULATION
 ** LEVEL 9: FOR PLACES AND COUNTIES WITHIN STATE
 ** SCAG REGION
 ** PARTIAL RECORD S=SUPPRESSED BY CENSUS BUREAU 7=VALUE NOT PRECISE

 CENSUS DATA AS OF 1 APRIL 90
 SCAG CENSUS DATA CENTER
 SEE ENCLOSED MEMO FOR IMPORTANT NOTES

SAN BERNARDINO		895016	**TOTAL MALES**	443403	FEMALE AGE &	**AMER IND POP**		1013	HISPANIC POP	20007
TOT POPULATION	875931	UNDER 1 YEAR	8444	MAITAL STATUS	15 TO 24 YEARS	UNDER 5 YRS	2592	5 - 14 YRS	36569	
URBAN POP	80262	1 - 2 YEARS	15587	SINGLE	51578	5 - 14 YRS	7438	15 - 59 YRS	98970	
RURAL POP	806754	3 - 4 YEARS	15151	EVER MARRIED	30477	60 - 64 YRS	364	60 - 64 YRS	3315	
		5 YEARS	7000	CHILD/FEMALE	0.42	65 YRS & OLDER	515	65 YRS & OLDER	3169	
65+/POPULATION	744460	6 YEARS	6863	25 TO 34 YEARS	8597	**AMER IND MALES**	441	**HISPANIC MALES	10647	
WHITE	47954	7-9 YEARS	23087	SINGLE	69359	UNDER 5 YRS	1323	5 - 14 YRS	18703	
BLACK		10-13 YEARS	30359	EVER MARRIED	1.66	5 - 14 YRS	3595	15 - 59 YRS	50014	
AMERICAN INDIAN	11711	14 YEARS	7273	CHILD/FEMALE	1756	60 - 64 YRS	177	60 - 64 YRS	1546	
AMERICAN INDIAN	195	15 YEARS	8355	35 TO 44 YEARS	47923	65 YRS & OLDER	225	65 YRS & OLDER	2905	
ESKIMO	16	16 YEARS	8227	SINGLE	2.90	**AMER IND FEMALES	572	**HISPANIC FEMALES**	10160	
65+/C		17 YEARS	8466	EVER MARRIED		UNDER 5 YRS	1269	5 - 14 YRS	17866	
ASIAN & PACIFIC		18 YEARS	9023	CHILD/FEMALE		5 - 14 YRS	3043	15 - 59 YRS	48964	
JAPANESE	2615	19 YEARS	9493	WHITE POPULATION		15 - 59 YRS	187	60 - 64 YRS	1769	
CHINESE	3011	20 YEARS	3923	UNDER 5 YRS	59180	65 YRS & OLDER	290	65 YRS & OLDER	3361	
PHILIPPINO	4191	21 YEARS	26027	5 - 14 YRS	114536					
KOREAN	1355	22-24 YEARS	41459	15 - 59 YRS	454930					
ASIAN INDIAN	1143	25-29 YEARS	37161	60 - 64 YRS	32607	ASIAN POPULATION				
VIETNAMESE	1322	30-34 YEARS	50067	65 YRS & OLDER	82807	UNDER 5 YRS	1506	ANCESTRY		
HAWAIIAN	600	35-44 YEARS	40666	**WHITE MALES**		5 - 14 YRS	3156	SINGLE ANCESTRY		
GUAMANIAN	262	45-54 YEARS	19299	UNDER 5 YRS	30641	15 - 59 YRS	11231	DUTCH	FROM	
SAMOEAN	293	55-59 YEARS	6917	5 - 14 YRS	58927	60 - 64 YRS	216	ENGLISH	80260	
OTHER ASIAN	1653	60-64 YEARS	9377	15 - 59 YRS	227578	65 YRS & OLDER	745	FRENCH	5147	
OTHER		65-74 YEARS	24503	60 - 64 YRS	15500	**ASIAN MALES**		GERMAN	54669	
SPANISH	65439	75 & OVER YRS	12671	65 YRS & OLDER	34533	UNDER 5 YRS	799	GREEK	1485	
NON SPANISH	6338	UNDER 1 YEAR	431613	**WHITE FEMALES**		5 - 14 YRS	1638	HUNGARIAN	2511	
TOTAL POPULATION		1-2 YEARS	7714	UNDER 5 YRS	28539	15 - 59 YRS	1638	IRISH	29091	
NON HISPANIC	729179	3-4 YEARS	14573	5 - 14 YRS	56809	60 - 64 YRS	4694	ITALIAN	16561	
HISPANIC TOTAL	165831	5 YEARS	14508	15 - 59 YRS	227352	65 YRS & OLDER	63	NORWEGIAN	4086	
MEXICAN	142359	6 YEARS	7075	60 - 64 YRS	17107	**ASIAN FEMALES**	427	POLISH	6591	
PUERTO RICAN	2742	7-9 YEARS	6836	65 YRS & OLDER	49274	UNDER 5 YRS	707	PORTUGUESE	3556	
CUBAN	1021	10-13 YEARS	21751	BLACK POPULATION		5 - 14 YRS	1558	RUSSIAN	1735	
OTHER HISPANIC	14355	14 YEARS	27978	UNDER 5 YRS	4699	15 - 59 YRS	6537	SCOTTISH	4768	
OTHER NONHISP	5360	15 YEARS	7093	5 - 14 YRS	9256	60 - 64 YRS	153	SWEDISH	6749	
		16 YEARS	7940	15 - 59 YRS	30650	65 YRS & OLDER	318	UKRAINIAN	777	
TOTAL POPULATION		17 YEARS	7332	60 - 64 YRS	1106	MARITAL STATUS		OTHER SINGLE	216363	
NON HISPANIC TOT	655079	18 YEARS	8111	65 YRS & OLDER	2246	MALES > 14 YRS		MULTIPLE ANCESTR	332804	
WHITE	46320	19 YEARS	7539	**BLACK MALES**		SINGLE	89643	NOT SPECIFIED	115061	
BLACK	25264	20 YEARS	8112	UNDER 5 YRS	2408	MARRIED	206222	OTHER	41136	
ASIAN/ASIAN	2917	21 YEARS	8225	5 - 14 YRS	4716	SEPARATED	6863	NCT REPORTED	73925	
HISPANIC TOTAL		22-24 YEARS	8270	15 - 59 YRS	16403	WIDOWED	6857	MULTIPLE ANCESTR		
WHITE	89362	25-29 YEARS	25526	60 - 64 YRS	460	DIVORCED	20049	ENGLISH & OTHER	136333	
BLACK	1144	30-34 YEARS	36047	65 YRS & OLDER	887	FEMALES > 14 YRS		FRENCH & OTHERS	49050	
ASIAN/ASIAN	3552	35-44 YEARS	49720	**BLACK FEMALES**		SINGLE	65997	GERMAN & OTHERS	138409	
OTHER	71759	45-54 YEARS	41920	UNDER 5 YRS	2290	MARRIED	202519	IRISH & OTHERS	135743	
		55-59 YEARS	22040	5 - 14 YRS	4540	SEPARATED	10511	ITALIAN & OTHER	20548	
		60-64 YEARS	7747	15 - 59 YRS	14095	WIDOWED	35937	POLISH & OTHERS	11131	
		65-74 YEARS	11020	60 - 64 YRS	638	DIVORCED	29105			
		75 & OVER YRS	30236	65 YRS & OLDER	1259					

 ** 2004 WORK, LABOR FORCE, UNEMPLOYMENT, COMPUTING CHARACTERISTICS OF THE POPULATION *****
 ** LEVEL 0: FOR PLACES AND COUNTIES WITHIN STATE *****
 ** SCAG REGION *****
 ** PARTIAL RECORD S=SUPPRESSED BY CENSUS BUREAU 7=VALUE NOT PRECISE *****
 CENSUS DATA AS OF 1 APRIL 80**
 SCAG CENSUS DATA CENTER **
 SEE ENCLOSED MEMO FOR IMPORTANT NOTES **

C-10	SAN JERARDINO	WORKERS/FAMILY		**BLACK MALES**		HH W/NO VEHICLE		MEAN WKS WORKED	
	15/85 RESIDENCE	NO WORKERS	34947	IN LABOR FORCE		TOTAL HH	20591	MALES 16 YRS +	45
	1ST POP 216YRS	1 WORKER/FAM	83746	ARMED FORCES	2828	WHITE HH	16199	FEMALES 16 YRS +	39
	LIVING IN:	> 1 WORKER/FAM	117987	CIV EMPLOYED	7995	BLACK HH	2005		
	100% STATE/COUNTY**			CIV UNEMPLOYED	1086	INDIAN HH	305	WEEKS UNEMPLOYED	
	SAME 75 HOUSE	MEAN INCOME/FAM		NONLABOR FORCE	5402	ASIAN HH	218	UNEMPLOYED 1-4WKS	28360
	DIFFERENT 75 HOUSE	1 WORKER/FAM	10474	**BLACK FEMALES*		HISPANIC HH	3812	UNEMPLOYED 5-14WK	30022
	SAME 75 CO	> 1 WORKER/FAM	19271	IN LABOR FORCE				UNEMPLOYED 15+ WK	31439
	DIFFERENT CO	COMPUTING MODE	28252	ARMED FORCES	247	HH W/VEHICLES			
	SAME STATE	WORKERS 16YRS+		CIV EMPLOYED	7039	HH W/ONE	102108	UNEMPLOYMENT 1979	
	DIFFERENT	CAR/TRUCK/VAN		CIV UNEMPLOYED	948	HH W/TWO	107760	TOTAL UNEMPLOYED	
	DIFFERENT	DRIVE ALONE		NONLABOR FORCE	7251	HH W/2+	78184	MALE	50839
	DIFFERENT	CARPOL	259500	**AMER IND MALE		SEX/LABOR FORCE		FEMALE	38962
	DIFFERENT	MASS TRANSIT	64896	IN LABOR FORCE		MALE LABOR FORCE		WHITE UNEMPLOYED	
	DIFFERENT	WALK ONLY	3274	ARMED FORCES	186	WORKED IN 1979		MALE	40892
	DIFFERENT	OTHER MEANS	15241	CIV EMPLOYED	2267	W/UNEMPLOYMENT		FEMALE	31162
	DIFFERENT	WORK AT HOME	10819	CIV UNEMPLOYED	298	NO UNEMPLOYMENT	46871	BLACK UNEMPLOYED	
	DIFFERENT	CAR COMMUTERS	5594	NONLABOR FORCE	1111	NO WORK IN 1979	201982	MALE	3093
	DIFFERENT	DRIVE ALONE	259500	**AMER IND FEM**		MALE NONLABOR	3968	FEMALE	2704
	DIFFERENT	2 PERS CARPOOL	47962	IN LABOR FORCE		FEM LABOR FORCE	68309	A IND UNEMPLOYED	
	DIFFERENT	3 PERS CARPOOL	10346	ARMED FORCES	16	WORKED IN 1979		MALE	849
	DIFFERENT	4 PERS CARPOOL	4171	CIV EMPLOYED	1615	W/UNEMPLOYMENT	34375	FEMALE	641
	DIFFERENT	5+ PERS CARPOOL	2317	CIV UNEMPLOYED	285	NO UNEMPLOYMENT	140745	ASIAN UNEMPLOYED	
	DIFFERENT	MALES 16 YRS+		NONLABOR FORCE	2262	NO WORK IN 1979	4607	MALE	731
	DIFFERENT	IN LABOR FORCE		**ASIAN MALES**		FEMALE NONLABOR	156482	FEMALE	1011
	DIFFERENT	ARMED FORCES		IN LABOR FORCE		MALE 16 YRS+		MALE	10548
	DIFFERENT	CIV EMPLOYED	16764	ARMED FORCES	294	WORK 35+ HRS/WK		FEMALE	7250
	DIFFERENT	CIV UNEMPLOYED	206701	CIV EMPLOYED	3274	50-52 WEEKS	151891	MEAN UNEMPLOYMENT	
	DIFFERENT	NONLABOR FORCE	16451	CIV UNEMPLOYED	217	40-49 WEEKS	31292	WKS/MALE	7
	DIFFERENT	FEMALES 16 YRS+	81214	NONLABOR FORCE	1240	27-39 WEEKS	12717	WKS/FEMALE	6
	DIFFERENT	IN LABOR FORCE		**ASIAN FEMALES*		1-26 WEEKS	21255	COMMUTERS 16YRS+	
	DIFFERENT	ARMED FORCES		IN LABOR FORCE		WORK 1-34 HR/WK		<5 MIN COMMUTE	13975
	DIFFERENT	CIV EMPLOYED	1415	ARMED FORCES	40	50-52 WEEKS	5691	5-9 MIN COMMUTE	51188
	DIFFERENT	CIV UNEMPLOYED	145137	CIV EMPLOYED	3520	40-49 WEEKS	5491	10-14 MINUTES	6451
	DIFFERENT	NONLABOR FORCE	11491	CIV UNEMPLOYED	236	27-39 WEEKS	4323	15-19 MINUTES	65403
	DIFFERENT	WHITE MALES**		NONLABOR FORCE	3105	1-26 WEEKS	12193	20-29 MINUTES	64938
	DIFFERENT	IN LABOR FORCE		**HISPANIC MALE		FEMALES 16 YRS+		30-44 MINUTES	47242
	DIFFERENT	ARMED FORCES		IN LABOR FORCE		WORK 35+ HRS/WK		45-59 MINUTES	19611
	DIFFERENT	CIV EMPLOYED	12619	ARMED FORCES	1359	50-52 WEEKS	67532	60+ MIN COMMUTE	26300
	DIFFERENT	CIV UNEMPLOYED	177352	CIV EMPLOYED	35402	40-49 WEEKS	17914	MEAN TRAVEL TIME	22
	DIFFERENT	NONLABOR FORCE	13016	CIV UNEMPLOYED	3965	27-39 WEEKS	10066	FEMALES W/CHILD	
	DIFFERENT	WHITE FEMALES*	67910	NONLABOR FORCE	11618	1-26 WEEKS	21275	W/CHILD 0-5 YRS	
	DIFFERENT	IN LABOR FORCE		**HISPANIC FEM**		WORK 1-34 HR/WK		LABOR FORCE	25202
	DIFFERENT	ARMED FORCES		IN LABOR FORCE		50-52 WEEKS	15811	NONLABOR FORCE	35831
	DIFFERENT	CIV EMPLOYED	1031	ARMED FORCES	110	40-49 WEEKS	8784	W/CHILD 6-17 YRS	
	DIFFERENT	CIV UNEMPLOYED	123403	CIV EMPLOYED	21733	27-39 WEEKS	23384	LABOR FORCE	40501
	DIFFERENT	NONLABOR FORCE	9026	CIV UNEMPLOYED	2247	1-26 WEEKS		NONLABOR FORCE	25119
	DIFFERENT	BLACK MALES**		NONLABOR FORCE	28167				
	DIFFERENT	IN LABOR FORCE							
	DIFFERENT	ARMED FORCES							

 ** ASST ENROLLMENT AND EDUCATION, BY RACE, VETERAN DISABILITY AND INMATE STATUS, AND AGE OF POPULATION CENSUS DATA AS OF 1 APRIL 80**
 ** LEVEL 9: FOR PLACES AND COUNTIES WITHIN STATE**
 ** STATE OF CALIFORNIA**
 ** PARTIAL RECORD S-SUPPRESSED BY CENSUS BUREAU ?-VALUE NOT PRECISE**

 SEE ENCLOSED MEMO FOR IMPORTANT NOTES *****

SAN BERNARDINO		EDUCATION/WORK		ASIAN POP >24YRS		VETERAN SERVICE		TOTAL POP	
SCHOOL ENROLLMENT		POP 16-18 YRS		CLEMENTARY	1266	POP > 15 YEARS		UNDER 2	16158
TOT POP >2 YRS		IN MILITARY	3076	HIGH SCHOOL		4/75 CR LATER	5317	1 - 2	30161
NURSERY SCHOOL	11854	IN SCHOOL	41261	1 - 3 YRS	952	VIETNAM ERA	43928	3 - 4	29659
ELEMENTARY	123163	NOT IN SCHOOL		4 YEARS	2239	KOREAN CONFLICT	21242	5 - 9	14075
HIGH SCHOOL	48750	HS GRADUATE		1 - 3 YEARS	1916	WORLD WAR II	38517	10-13	13714
COLLEGE	51179	EMPLOYED	6422	4 + YEARS	2904	WORLD WAR I	1804	14	44028
WHITE POP >2YRS		UNEMPLOYED	1157	SCHOOL COMPLETD		OTHER	14464	15	50037
NURSERY SCHOOL	5500	NONLABOR	2651	NONHISPANIC POP		POP 16-64 YRS		16	14371
ELEMENTARY	103024	NOT HS GRAD		> 24 YEARS		W/WORK DISABILITY		17	12364
HIGH SCHOOL	47165	EMPLOYED	4215	ELEMENTARY	45558	IN LABOR FORCE	19565	18	16237
COLLEGE	41470	UNEMPLOYED	1303	HIGH SCHOOL		NONLABOR FORCE		19	16338
BLACK POP >2YRS		NONLABOR	5233	COLLEGE		PREVENTED	29239	20	16105
NURSERY SCHOOL	777	SCHOOL COMPLETD		1 - 3 YRS	64640	NOT PREVENTO	5563	21	17140
ELEMENTARY	8617	TOT POP >24 YRS		4 YEARS	159251	NO DISABILITY	506088	22-24	51923
HIGH SCHOOL	4463	ELEMENTARY	66991	1 - 3 YEARS	100471	PUBLIC TRANSIT		25-29	83567
COLLEGE	4023	HIGH SCHOOL		4 + YEARS	62233	DISABILITY STATUS		30-34	73200
AMER IND >2YRS		COLLEGE	79257	HISPANIC POP	3946	POP >15 YEARS		35-44	99787
NURSERY SCHOOL	97	1 - 3 YRS	180774	> 24 YEARS		16-64 YEARS		45-54	82586
ELEMENTARY	2418	4 YEARS		ELEMENTARY	21333	PTD STATUS	10896	55-59	41379
HIGH SCHOOL	659	1 - 3 YEARS	111533	HIGH SCHOOL		NO STATUS	549563	60-64	14664
COLLEGE	719	4 + YEARS	66179	COLLEGE		65 AND OVER		65-69	20905
ASIAN POP >2YRS		WHITES >24 YRS		1 - 3 YRS	14617	PTD STATUS	12970	70-74	56739
NURSERY SCHOOL	202	ELEMENTARY	52599	4 YEARS	21523	NO STATUS	71890	75-84	26019
ELEMENTARY	2993	HIGH SCHOOL		1 - 3 YEARS	11062	FAMILY W/CHILD		85 & OVER	7930
HIGH SCHOOL	581	1 - 3 YRS	67202	4 + YEARS	3946	MARRIED COUPLE	203772	POPULATION IN	
COLLEGE	1662	4 YEARS	159745	SCHOOL COMPLETD		MALE/NO SPOUSE	6583	GROUP QUARTERS	
SCHOOL ENROLLMENT		COLLEGE	97407	POP >18 YEARS		FEMALE/NO SPOUSE	38701	MENTAL HOSPITAL	1399
NONHISPANIC >2YR		1 - 3 YEARS	59304	ELEMENTARY 0-8	179149	SUBFAMILIES		HOME FOR AGED	4601
NURSERY SCHOOL	5159	4 + YEARS		HIGH SCHOOL	238592	MARRIED COUPLE		OTHER INMATE	6025
ELEMENTARY	99400	BLACK POP >24YRS		COLLEGE		W/CHILDREN	839	COLLEGE DORMITRY	1924
HIGH SCHOOL	46245	ELEMENTARY	2724	1 TO 3 YEARS	137703	WITHOUT	1123	OTHER GO	6689
COLLEGE	43620	HIGH SCHOOL		4 YEARS	33745	FATHER-CHILD	388	PER CAPITA INC.	
HISPANIC >2YR		1 - 3 YRS	3350	5 YRS OR MORE	36585	POther-CHILD	2770	TOTAL INMATES	
NURSERY SCHOOL	2695	4 YEARS	7405	VETERAN STATUS		POP IN SUBFAM	12791	>14 YEARS OLD	
ELEMENTARY	33762	COLLEGE	6293	POP >16 YEARS		HHI W/HEAD >55YRS		INSTITUTIONAL	2229
HIGH SCHOOL	12545	1 - 3 YEARS	2113	MALE		HEAD 60-64 YRS		NONINSTITUTNL	7123
COLLEGE	7191	4 + YEARS		NONVETERAN	119170	WITH TELEPHONE	20527	MEAN VALUE	
ENROLLMENT IN		AMER IND >24YRS		FEMALE	185196	W/OUT TELEPHCN	695	NONCONDO HOUSING	68234
PRIVATE SCHOOLS		ELEMENTARY	248	VETERAN	5702	HEAD 65 + YEARS	55103		
POP >2 YRS		HIGH SCHOOL		NONVETERAN	329091	WITH TELEPHONE	2003		
NURSERY SCHOOL	7340	1 - 3 YRS	1205						
ELEMENTARY	12625	4 YEARS	2045						
HIGH SCHOOL	3956	COLLEGE	1377						
COLLEGE	7379	1 - 3 YEARS	144						
		4 + YEARS							

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 156: AREA PROFILE REPORT
 LEVEL 4: FOR CITIES AND COUNTIES WITHIN STATE
 SCAG REGION EXCLUDING L.A. CO
 P=PARTIAL RECORD S=SUPPRESSED BY CENSUS BUREAU 7=VALUE NOT PRECISE

CENSUS DATA AS OF 1 APRIL 80 (PROGRAMMED 16 APRIL 82)
 SCAG CENSUS DATA CENTER

SEE ENCLOSED MEMO FOR IMPORTANT NOTES

GRAND TERRACE CITY									
TOTAL POPULATION	8498	URBANIZED POP	8498	TOTAL POPULATION	8498	TOTAL HOUSING	3282	PERSONS IN UNIT	
RURAL POP	0	CO POP	153	IN FAMILY HH	153	SEASONAL	4	OWNER OCCUPIED	
URBAN POP	8498	RENTER POP	1449	HOUSEHOLDER	2310	YEAR ROUND	3278	PERSON	310
				SPOUSE	2006	OWNER HOUSING	2535	2 PERSONS	813
SEX BY AGE		ASIAN TOTAL	230	OTHER RELATIVE	3024	OCCUPIED	2360	3 PERSONS	450
MALE TOTAL	4202	JAPANESE	34	% NONRELATIVE	100	FOR SALE	175	4 PERSONS	474
UNDER 5	346	CHINESE	69	IN NONFAMILY	905	RENTER HOUSING	696	5 PERSONS	200
5 - 14	675	FILIPINO	81	IN GROUP QUART	153	OCCUPIED	664	6 OR MORE	107
15 - 17	216	KOREAN	22			FOR RENT	32	RENTER OCCUPIED	
18 - 24	426	ASIAN IND	9	RELATED CHILDREN		OCCASIONAL USE	1	PERSON	254
25 - 34	814	VIETNAMESE	4	UNDER 5 YEARS	598	OTHER VACANTS	46	2 PERSONS	169
35 - 44	602	HAWAIIAN	9	5 TO 17 YEARS	1708			3 PERSONS	107
45 - 54	453	GUAMANTIAN	0			CONDOMINIUM ONLY	106	4 PERSONS	65
55 - 64	360	SAMOAN	2	POP NO PLUMBING	5	OWNER OCCUPIED	97	5 PERSONS	30
65 +	310	NATIVE AMERICAN	27	POP OVERCROWDED	229	VACANT FOR SALE	0	6 OR MORE	11
FEMALE TOT	4296			POP BOTH ABOVE	0	RENTER OCCUPIED	6	MEAN PERSON/UNIT	2.75
UNDER 5	259	AGE BY RACE				OTHER VACANTS	3	MEDIAN PERSON/UT	2.44
5 - 14	632	NONHISPANIC		TOTAL HOUSEHOLDS	3024			MEAN ROOMS/UNIT	5.70
15 - 17	218	WHITE		W/MEMBR UNDER 18	1256	HOUSING VALUE		OWNER OCCUPIED	6.07
18 - 24	505	UNDER 5	425	W/MEMBR 65 OVER	442	LESS THAN \$10K	1	VACANT FOR SALE	6.07
25 - 34	867	5 - 17	1349			\$10K - \$14,999	3	RENTER OCCUPIED	4.33
35 - 44	575	18 - 64	4483	HOUSEHOLD TYPE		\$15K - \$19,999	5	VACANT FOR RENT	4.50
45 - 54	439	65 +	689	ONE PERSON HH		\$20K - \$24,999	9	OTHER VACANTS	5.66
55 - 64	363	BLACK		MALE HEAD	260	\$25K - \$29,999	14		
65 +	438	UNDER 5		FEMALE HEAD	308	\$30K - \$34,999	12	ROOMS/UNIT	
POP MEDIAN AGE	30.80	5 - 17		TWO OR MORE		\$35K - \$39,999	11	1 ROOM	6
MALE MEDIAN AGE	30.50	18 - 64		MARRIED COUPLE	2006	\$40K - \$49,999	62	2 ROOMS	61
FEM MEDIAN AGE	31.10	65 +		MALE NO SPOUSE	76	\$50K - \$79,999	1036	3 ROOMS	249
MARITAL STATUS		ASIAN/AMER		FEM NO SPOUSE	228	\$80K - \$99,999	413	4 ROOMS	395
MALES 15 & OVER	3181	UNDER 5		NONFAMILY HH	146	\$100K - \$149,999	203	5 ROOMS	728
SINGLE	772	5 - 17				\$150K - \$199,999	54	6 OR MORE ROOM	1839
MARRIED	2075	18 - 64		HH W/MEMBERS		\$200K OR MORE	55		
SEPARATED	46	65 +		65 YEARS & OLDER		MEDIAN VALUE	\$73.800	PERSONS PER ROOM	
WIDOWED	50	HISPANIC		OWNER HOUSING	374			OWNER OCCUPIED	
DIVORCED	238	UNDER 5	130	RENTER HOUSING	68	CONTRACT RENT		1.00 OR LESS	2331
FEM 15 & OVER	3405	5 - 17	287			LESS THAN \$50	3	1.01 - 1.50	27
SINGLE	669	18 - 64	609	HH W/NONRELATIVE	223	\$50 - \$99	5	1.51 OR MORE	2
MARRIED	2079	65 +	27			\$100 - \$119	18	RENTER OCCUPIED	
SEPARATED	63	RACE BY TENURE		TOTAL HOUSING	3282	\$120 - \$139	19	1.00 OR LESS	653
WIDOWED	292	HOMEOWNERS		URBAN HOUSING	3282	\$140 - \$149	6	1.01 - 1.50	9
DIVORCED	302	NONHISPANIC		URBANIZED HOUSNG	3282	\$150 - \$159	6	1.51 OR MORE	2
		WHITE	2027	MEAN UNIT VALUE		\$160 - \$169	3		
HISPANIC	7445	BLACK		NONCONDOMINIUM		\$170 - \$199	47	UNIT NO PLUMBING	3
WHITE	6946	OTHER		OCCUPIED		\$200 - \$249	197	OWNER OCCUPIED	2
BLACK	161	HISPANIC	226	FOR SALE ONLY	\$85,092	\$250 - \$299	149	RENTER OCCUPIED	1
ASIAN/AMER	266	RENTERS		CONDOMINIUM	\$96,950	\$300 - \$399	90		
OTHER	72	NONHISPANIC		OCCUPIED	\$65,013	\$400 - \$499	71	OVERCROWDED W/NO	
HISPANIC	1053	WHITE	557	MEAN RENT		\$500 OR MORE	20	PRIVATE PLUMBING	
MEXICAN	855	BLACK		FOR SALE ONLY		NO CASH RENT	19	OWNR	0
PUERTO RICAN	8	OTHER		RENTER OCCUPIED	\$217	MEDIAN RENT	\$254	PENTER	0
CUBAN	16	HISPANIC	63	VACANT FOR RENT	\$264	FOR RENT FOR 2M	7	BOARDED UP	1
OTHER	174					FOR SALE FOR 6M	34		

SCAG 82 AND RHAM HOUSING ALLOCATION

CITY	1980 DWELLING UNITS	2000 DWELLING UNITS	INCREMENT	% CHANGE	1988 ADJUSTED DWELLINGS	1988 % SHARE 1980-1
ADELANTO	1,037	2,000	963	92.86	116	12.0
BARSTOW	6,714	11,200	4,486	66.81	1,054	23.4
CHINO	11,364	18,371	7,007	61.67	2,957	42.7
COLTON	8,667	14,456	5,789	66.79	2,764	47.7
FONTANA	13,963	27,614	13,651	97.76	3,916	28.6
GRAND TERRACE	3,974	5,107	1,133	60.9	232	17.0
LOMA LINDA	4,715	5,969	1,254	26.59	332	26.4
MONTCLAIR	7,857	11,670	3,813	48.52	1,333	34.9
NEEDLES	1,745	2,139	394	22.57	42	10.6
ONTARIO	31,348	48,492	17,144	54.68	6,212	36.2
ONCHO CUCAMONGA	17,838	54,361	36,523	204.75	14,666	40.1
REDLANDS	17,150	26,120	8,970	52.3	2,857	31.8
RIALTO	14,225	27,970	13,745	96.63	4,805	34.9
AN BERNARDINO	48,080	72,402	24,322	50.58	8,434	34.6
PLAND	18,611	26,526	7,915	42.52	3,086	38.9
VICTORVILLE	6,167	10,900	4,733	76.74	1,069	22.5
NINCORPORATED	157,504	287,369	129,865	84.23	51,269	39.4
TOTAL	370,159	652,666	282,507	77.23	102,905	36.4

AREANAME=BRAND TERRACE CITY

TRACT	POP90 ²⁰⁰⁰	POP90 ²⁰⁰⁰	POPDELTA	HSG 1980 ^{HSG 1980}	HSG 2000 ^{HSG 2000}	HSG ^{HSG} DELTA FLAG
4000	148	368	220	50	127	77 P
7100	6936	11843	4907	3124	4980	1856 P
AREANAME	7084	12211	5127	3174	5107	1933

P=Partial census tract
W=Whole census tract

 00 A301 EMPLOYMENT AND INCOME CHARACTERISTICS #1
 00 LEVEL A1: FOR CITIES AND COUNTIES WITHIN STATE
 00 SCAG REGION
 00 P=PARTIAL RECORD S=SUPPRESSED BY CENSUS BUREAU ?=VALUE NOT PRECISE

 CENSUS DATA AS OF 1 APRIL 1980
 SCAG CENSUS DATA CENTER
 SEE ENCLOSED MEMO FOR IMPORTANT NOTE!

GRAND TERRACE TOT POPULATION TOT EMPLOYMENT	8498 4153	TOTAL HOUSEHOLDS 3033	TOTAL FAMILIES 2313	FACE/FAM INCOME 2313	RACE & SEX BY LABOR FORCE
INDUSTRY		HOUSEHOLDS WITH FOLLOWING INCOME LESS THAN \$2500	FAMILY INCOME LESS THAN \$2500	WHITE FAMILIES LESS THAN \$5000	WHITE VS NON
AGRICULTURE	45	\$2500- \$4999	\$2500- \$4999	\$5000- \$7499	WHITE MALES
CONSTRUCTION	211	\$5000- \$7499	\$5000- \$7499	\$7500- \$9999	ARMED FORCES
MANUFACTURE:		\$7500- \$9999	\$7500- \$9999	\$10000- \$14999	CIV EMPLOYED
NONDURABLE	160	\$10000- \$12499	\$12500- \$14999	\$15000- \$19999	CIV UNEMPLOYED
DURABLE	402	\$12500- \$14999	\$15500- \$17499	\$20000- \$24999	NONLABOR FORCE
TRANSPORTATION	230	\$15500- \$17499	\$17500- \$19999	\$25000- \$34999	WHITE FEMALES
COMMUNICATION	124	\$17500- \$19999	\$21000- \$22499	\$35000- \$49999	ARMED FORCES
WHOLESALE TRADE	181	\$20000- \$22499	\$22500- \$23999	\$50000 OR MORE	CIV EMPLOYED
RETAIL TRADE	649	\$22500- \$24999	\$25000- \$27499	BLACK FAMILIES LESS THAN \$5000	CIV UNEMPLOYED
FINANCE	274	\$25000- \$27499	\$27500- \$29999	\$5000- \$7499	NONLABOR FORCE
BUSINESS/REPAIR	132	\$27500- \$29999	\$30000- \$31999	\$7500- \$9999	NONWHITE MALES
PERSONAL	130	\$30000- \$31999	\$31000- \$34999	\$10000- \$14999	ARMED FORCES
PROFESSIONAL	624	\$35000- \$39999	\$35000- \$39999	\$15000- \$19999	CIV EMPLOYED
HEALTH	423	\$40000- \$49999	\$40000- \$49999	\$20000- \$24999	CIV UNEMPLOYED
EDUCATION	254	\$50000- \$59999	\$50000- \$59999	\$25000- \$34999	NONLABOR FORCE
OTHER	344	\$75000 OR MORE	\$75000 OR MORE	\$35000- \$49999	WHITE MALES
PUBLIC ADMIN.		MEDIAN HH INCOME	MEDIAN FAM INCOME	\$50000 OR MORE	ARMED FORCES
OCCUPATION		MEAN HH INCOME	MEAN FAM INCOME	AMER IND FAM	CIV EMPLOYED
MANAGERIAL	495	HOUSEHOLDS WITH FOLLOWING INCOME	TOTAL FAMILIES	LESS THAN \$5000	CIV UNEMPLOYED
ADMINISTRATIVE	815	WAGE/SALARY	29952	\$5000- \$7499	NONLABOR FORCE
SPECIALTY		NONFARM SELF-E	29717	\$7500- \$9999	HISPANIC ETHNIC
TECHNICAL/SALES	183	FARM SELF-E	21857	\$10000- \$14999	E SEX BY LABOR
SALES	494	INTEREST/RENTS	5	\$15000- \$19999	FORCE STATUS
CLERICAL	771	SOCIAL SECURITY	39579	\$20000- \$24999	HISPANIC VS NON
SERVICE		PUBLIC ASSIST	27366	\$25000- \$34999	NONHISPANIC MALE
PRIVATE HOUSE	33	OTHER INCOME		\$35000- \$49999	ARMED FORCES
PROTECTION	78	MEAN INCOME BY HH INCOME TYPE		\$50000 OR MORE	CIV EMPLOYED
OTHER SERVICE	270	WAGE/SALARY		LESS THAN \$5000	CIV UNEMPLOYED
FARMING/FORESTRY	26	NONFARM SELF-E		\$5000- \$7499	NONLABOR FORCE
CHAFT/REPAIR	556	FARM SELF-E		\$7500- \$9999	NONHISPANIC FEM
OPERATOR/LABORER		INTEREST/RENTS		\$10000- \$14999	ARMED FORCES
ASSEMBLERS	154	SOCIAL SECURITY		\$15000- \$19999	CIV EMPLOYED
TRANSPORTATION	198	PUBLIC ASSIST		\$20000- \$24999	CIV UNEMPLOYED
LABORERS	83	OTHER INCOME		\$25000- \$34999	NONLABOR FORCE
OCCUPATION CLASS				\$35000- \$49999	HISPANIC MALES
PRIVATE WAGE	2862			\$50000 OR MORE	ARMED FORCES
FEDERAL EMPLOYEE	234			AMERICAN FAMILIES	CIV EMPLOYED
STATE EMPLOYEE	130			LESS THAN \$5000	CIV UNEMPLOYED
LOCAL GOVNT	534			\$5000- \$7499	NONLABOR FORCE
SELF-EMPLOYED	384			\$7500- \$9999	HISPANIC FEM
UNPAID FAMILY	0			\$10000- \$14999	ARMED FORCES
				\$15000- \$19999	CIV EMPLOYED
				\$20000- \$24999	CIV UNEMPLOYED
				\$25000- \$34999	NONLABOR FORCE
				\$35000- \$49999	HISPANIC MALES
				\$50000 OR MORE	ARMED FORCES
					CIV EMPLOYED
					CIV UNEMPLOYED
					NONLABOR FORCE
					HISPANIC FEM
					ARMED FORCES
					CIV EMPLOYED
					CIV UNEMPLOYED
					NONLABOR FORCE

1. AREA PROFILE REPORT
 2. LEVEL AS FOR CITIES AND COUNTIES WITHIN STATE :
 3. STATE OF CALIFORNIA
 4. PARTIAL RECORD S-SUPPRESSED BY CENSUS BUREAU ?-VALUE NOT PRECISE

CENSUS DATA AS OF 1 APRIL 80 (PROGRAMMED 16 APRIL 82)
 SCAG CENSUS DATA CENTER

SEE ENCLOSED MEMO FOR IMPORTANT NOTES

SAN BERNARDINO COUNTY

TOTAL POPULATION	895016
RURAL POP	83830
URBAN POP	811186
SEX BY AGE	
MALE TOTAL	443410
UNDER 5	39317
5 - 17	74445
18 - 24	24663
25 - 34	62467
35 - 44	78124
45 - 54	50132
55 - 64	40476
65 +	36472
FEMALE TOT	37323
UNDER 5	451606
5 - 17	36977
18 - 24	73657
25 - 34	33325
35 - 44	50235
45 - 54	77586
55 - 64	45654
65 +	41736
POP MEDIAN AGE	28.40
MALE MEDIAN AGE	27.50
FEMALE MEDIAN AGE	29.30
MARITAL STATUS	
MALES 15 & OVER	329648
SINGLE	90065
MARRIED	204559
DIVORCED	7355
WIDOWED	6801
FEMALES 15 & OVER	20865
SINGLE	343770
MARRIED	45553
DIVORCED	202546
WIDOWED	10499
POP MEDIAN AGE	35.18
MALE MEDIAN AGE	29.84
FEMALE MEDIAN AGE	35.18
ETHNICITY	
NONHISPANIC	729153
WHITE	653303
BLACK	46615
ASIAN/AMER	21801
OTHER	7434
HISPANIC	165863
MEXICAN	142227
Puerto Rican	2572
OTHER	1046
OTHER	12658

URBANIZED POP	679350
POP	23214
RENTER POP	230286
ASIAN TOTAL	14923
JAPANESE	2765
CHINESE	2530
FILIPINO	4162
KOREAN	1671
ASIAN IND	1060
VICTNAMESE	1341
HAWAIIAN	747
GUANIANIAN	326
SAMOA	353
NATIVE AMERICAN	10684
AGE BY RACE	
NONHISPANIC	
WHITE	
UNDER 5	48042
5 - 17	126563
18 - 64	355350
65 +	79049
BLACK	
UNDER 5	4411
5 - 17	12439
18 - 64	27375
65 +	2183
ASIAN/AMER	
UNDER 5	2820
5 - 17	6541
18 - 64	19085
65 +	1345
HISPANIC	
UNDER 5	21017
5 - 17	47443
18 - 64	60859
65 +	6540
RACE BY TENURE	
HOMEOWNERS	
NONHISPANIC	
WHITE	172513
BLACK	7102
OTHER	4932
HISPANIC	26350
RENTERS	
NONHISPANIC	
WHITE	71087
BLACK	6920
OTHER	3155
HISPANIC	16584

TOTAL POPULATION	895016
IN FAMILY HH	23214
HOUSEHOLDER	235172
SPOUSE	195427
OTHER RELATIVE	337430
NONRELATIVE	12552
IN NONFAMILY	90769
IN GROUP QUART	23214
RELATED CHILDREN	
UNDER 5 YEARS	75030
5 TO 17 YEARS	187608
POP NO PLUMBING	4590
POP OVERCROWDED	56772
POP BOTH ABOVE	1965
TOTAL HOUSEHOLDS	308443
W/MEMBR UNDER 18	135687
W/MEMBR 65 & OVER	63646
HOUSEHOLD TYPE	
ONE PERSON HH	
MALE HEAD	25247
FEMALE HEAD	35193
TWO OR MORE	
MARRIED COUPLE	195527
MALE, NO SPOUSE	6803
FEM, NO SPOUSE	30446
NONFAMILY HH	13027
HH W/MEMBERS	
65 YEARS & OLDER	
OWNER HOUSING	49410
RENTER HOUSING	14286
HH W/NONRELATIVE	22528
TOTAL HOUSING	370155
URBAN HOUSING	421123
URBANIZED HOUSING	245955
MEAN UNIT VALUE	
NONCONDOMINIUM	
OCCUPIED	168,215
FOR SALE ONLY	177,772
CONDOMINIUM	
OCCUPIED	164,623
FOR SALE ONLY	160,497
MEAN RENT	
RENTER OCCUPIED	1231
VACANT FOR RENT	1250

TOTAL HOUSING	370155
SEASONAL	4019
YEAR ROUND	266135
OWNER HOUSING	220597
OCCUPIED	210597
FOR SALE	9900
RENTER HOUSING	107679
OCCUPIED	97646
FOR RENT	9933
OCCASIONAL USE	29403
OTHER VACANTS	8257
CONDOMINIUM ONLY	6744
OWNER OCCUPIED	2786
VACANT FOR SALE	1307
RENTER OCCUPIED	1660
OTHER VACANTS	971
HOUSING VALUE	
LESS THAN \$10K	1392
\$10K - \$14,999	2261
\$15K - \$19,999	3328
\$20K - \$24,999	4484
\$25K - \$29,999	4865
\$30K - \$34,999	6345
\$35K - \$39,999	7760
\$40K - \$49,999	2439
\$50K - \$79,999	7408
\$80K - \$99,999	23865
\$100K - \$149,999	15577
\$150K - \$199,999	3450
\$200K OR MORE	2026
MEDIAN VALUE	163,400
CONTRACT RENT	
LESS THAN \$50	621
\$50 - \$99	6074
\$100 - \$119	3885
\$120 - \$139	4680
\$140 - \$149	1861
\$150 - \$159	4982
\$160 - \$169	3733
\$170 - \$179	10545
\$180 - \$189	19233
\$190 - \$199	16164
\$200 - \$299	13355
\$300 - \$399	4169
\$400 - \$499	1053
\$500 OR MORE	2417
NO CASH RENT	1223
MEDIAN RENT	
FOR RENT FOR 24	3520
FOR SALE FOR 6M	1913

PERSONS IN UNIT	
OWNER OCCUPIED	
PERSON	31503
2 PERSONS	71427
3 PERSONS	37603
4 PERSONS	34589
5 PERSONS	18963
6 OR MORE	12908
RENTER OCCUPIED	
PERSON	28932
2 PERSONS	27952
3 PERSONS	17254
4 PERSONS	12365
5 PERSONS	6113
6 OR MORE	4986
MEAN PERSON/UNIT	2.82
MEDIAN PERSON/UT	2.44
MEAN ROOMS/UNIT	5.05
OWNER OCCUPIED	5.65
VACANT FOR SALE	5.63
RENTER OCCUPIED	4.11
VACANT FOR RENT	3.81
OTHER VACANTS	4.36
ROOMS/UNIT	
1 ROOM	6527
2 ROOMS	13933
3 ROOMS	39354
4 ROOMS	77209
5 ROOMS	89093
6 OR MORE ROOM	139065
PERSONS PER ROOM	
OWNER OCCUPIED	
1.00 OR LESS	202365
1.01 - 1.50	6190
1.51 OR MORE	2422
RENTER OCCUPIED	
1.00 OR LESS	89783
1.01 - 1.50	5346
1.51 OR MORE	3517
UNIT NO PLUMBING	5960
OWNER OCCUPIED	303
RENTER OCCUPIED	1304
OVERCROWDED W/NO	
PRIVATE PLUMBING	
OWNER	130
RENTER	287
SCARDED UP	1299

 ** 2001 EMPLOYMENT AND INCOME CHARACTERISTICS **
 ** LEVEL 01: FOR PLACES AND COUNTIES WITHIN STATE **
 ** SCAG REGION **
 ** PARTIAL RECORD S=SUPPRESSED BY CENSUS BUREAU ?=VALUE NOT PRECISE **

 CENSUS DATA AS OF 1 APRIL 2001
 SCAG CENSUS DATA CENTER **
 SEE ENCLOSED MEMO FOR IMPORTANT NOTES **

SCAG METROPOLITAN AREA	895016	TOTAL HOUSEHOLDS	209231	TOTAL FAMILIES	234680	RACE/FAM INCOME	RACE & SEX BY
POPULATION	351830					**WHITE FAMILIES	LABOR FORCE
EMPLOYMENT						LESS THAN \$5000	:WHITE VS NON
INDUSTRY		HOUSEHOLDS WITH		FAMILY INCOME			**WHITE MALES**
AGRICULTURE	9124	FOLLOWING INCOME		LESS THAN \$2500	6715		ARMED FORCES
CONSTRUCTION	27107	LESS THAN \$2500	11822	\$2500- \$4999	9259		CIV EMPLOYED
MANUFACTURES:		\$2500- \$4999	24856	\$5000- \$7499	14619		CIV UNEMPLOYED
NONDURABLE	16421	\$5000- \$7499	23912	\$7500- \$12499	37119		NONLABOR FORCE
DURABLE	46448	\$7500- \$9999	25610	\$12500- \$14999	15493		**WHITE FEMALES*
TRANSPORTATION	12513	\$10000- \$12499	25694	\$15000- \$17499	18193		ARMED FORCES
COMMUNICATION	12247	\$12500- \$14999	19735	\$17500- \$19999	16652		CIV EMPLOYED
WHOLESALE TRADE	12386	\$15000- \$17499	22529	\$20000- \$24999	19375		CIV UNEMPLOYED
RETAIL TRADE	62525	\$20000- \$24999	23045	\$25000- \$27499	15519		NONLABOR FORCE
FINANCE	19563	\$25000- \$27499	17769	\$27500- \$29999	16072		**NONWHITE MALES
UNCLASSIFIED/REPAIR	15255	\$30000- \$34999	18057	\$35000- \$39999	19347		ARMED FORCES
PERSONAL	13255	\$35000- \$39999	13097	\$40000- \$49999	12759		CIV EMPLOYED
PROFESSIONAL		\$40000- \$49999	21555	\$50000- \$59999	12573		CIV UNEMPLOYED
HEALTH	30336	\$50000- \$74999	14147	\$75000- \$99999	7991		NONLABOR FORCE
EDUCATION	30493	\$75000- \$99999	14250	\$100000- \$149999	2841		**NONWHITE FEM**
OTHER	14971	\$100000- \$149999	8622	\$150000- \$199999	20039		ARMED FORCES
PUBLIC ADMIN.	22555	\$200000- \$249999	3147	\$250000- \$299999			CIV EMPLOYED
		\$250000- \$299999		\$300000- \$349999			CIV UNEMPLOYED
		\$300000- \$349999		\$350000- \$399999			NONLABOR FORCE
		\$350000- \$399999		\$400000- \$499999			
		\$400000- \$499999		\$500000- \$599999			
		\$500000- \$599999		\$600000- \$699999			
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		\$15000000000- \$19999999999		\$20000000000- \$24999999999			
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		\$100000000000000- \$149999999999999		\$150000000000000- \$199999999999999			
		\$150000000000000- \$199999999999999		\$200000000000000- \$249999999999999			
		\$200000000000000- \$249999999999999		\$250000000000000- \$299999999999999			
		\$250000000000000- \$299999999999999		\$300000000000000- \$349999999999999			
		\$300000000000000- \$349999999999999		\$350000000000000- \$399999999999999			
		\$350000000000000- \$399999999999999		\$400000000000000- \$499999999999999			
		\$400000000000000- \$499999999999999		\$450000000000000- \$499999999999999			
		\$450000000000000- \$499999999999999		\$500000000000000- \$599999999999999			

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